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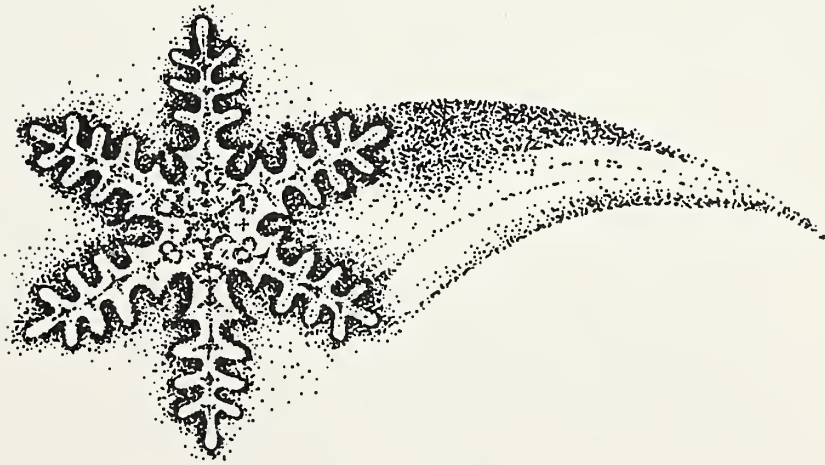
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# **Running Springs Advanced Wastewater Treatment and Reclamation Project Final EIR/EIS**

**Running Springs Water District  
U.S. Department of Agriculture, Forest Service**

**March 1993**



**URS Consultants, Inc.  
San Bernardino, California**

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**FINAL ENVIRONMENTAL IMPACT REPORT / STATEMENT  
FOR RUNNING SPRINGS ADVANCED WASTEWATER  
TREATMENT AND RECLAMATION PROJECT**

**State Clearinghouse #91102031**

Prepared for:

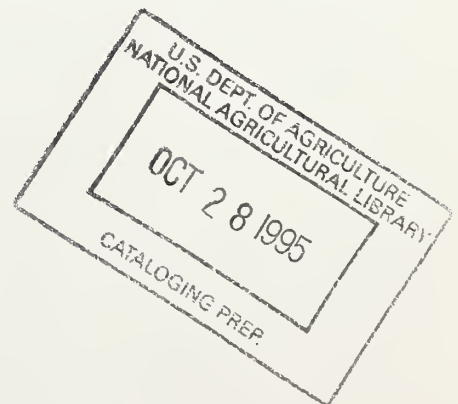
**RUNNING SPRINGS WATER DISTRICT  
Running Springs, California**

and

**U.S. DEPARTMENT OF AGRICULTURE,  
FOREST SERVICE  
San Bernardino, California**

Prepared by:

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San Bernardino, California**



**March 1993**



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# **1. SUMMARY OF THE PREFERRED ALTERNATIVE AND IMPACTS**

This Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) contains material which supplements the information presented in the Draft EIR/EIS, as necessary to respond to public comments to the latter requesting clarification or additional analysis. However, this document does not repeat information contained in the Draft EIR/EIS.

## **1.1 INTRODUCTION AND PURPOSE OF THE PROJECT**

The Running Springs Water District (the District) proposes to upgrade the level of treatment at its existing wastewater treatment plant from secondary to tertiary. The treatment plant would be upgraded to provide a high level of disinfection to meet state requirements for unrestricted use for irrigation and for snow-making at a nearby ski resort, the Snow Valley Ski Resort. A pipeline approximately 9 miles in length would be constructed to pipe the treated effluent to the ski resort (Figure 1-1). The eastern one-half of the pipeline would cross lands under the jurisdiction of the U.S. Department of Agriculture Forest Service (Forest Service). In addition, the ski resort is located on National Forest System land and is authorized by a Special Use Permit issued by the Forest Service. For purposes of the California Environmental Quality Act (CEQA), the Lead Agency is the District. For purposes of the National Environmental Policy Act (NEPA), the Lead Agency is the Forest Service.

During the extended drought which occurred in the late 1980s and early 1990s, Snow Valley Ski Resort experienced water shortages which prevented the application of sufficient snow to adequately cover its ski slopes. As a result, the resort experienced much-below-normal skier use and fell short of its existing recreation potential. This also resulted in several unprofitable seasons. The ski resort seeks to augment its current water supply with treated effluent. The District currently disposes of its secondary-treated effluent to percolation/evaporation basins and a spray irrigation system established on National Forest System lands. This disposal system currently handles an average of 0.6 MGD and is approaching its capacity. The District is seeking to reclaim and reuse its treated effluent to the maximum extent possible in order to make more efficient use of the limited water resources in the area and to reduce its dependency upon the existing wastewater disposal system. The proposed project meets these objectives.

## **1.2 DESCRIPTION OF THE PREFERRED ALTERNATIVE**

The Preferred Alternative consists of several components: upgrades to the existing wastewater treatment plant, construction of a 9-mile pipeline to deliver the reclaimed water to the Snow Valley Ski Resort, and storage and runoff control facilities at the ski resort.

A preliminary cost estimate for the Preferred Alternative totals \$5.5 million. The treatment plant upgrades would account for \$2.1 million of this total.



### 1.2.1 Tertiary Upgrade

The first component involves upgrading the wastewater plant to a tertiary level of treatment. This means that practically all of the suspended solids in the water would be removed, achieving a very low level of turbidity (1 to 3 turbidity units). Chlorine would be added to achieve a high level of disinfection. The resulting effluent would meet state requirements for irrigation water for parks, playgrounds and schools as defined in Section 60313 of Title 22 of the California Administrative Code. The effluent would also meet the requirements for nonrestricted recreational impoundments (Section 60315) such as boating and swimming. The State Department of Health Services has indicated that reclaimed water meeting this level of disinfection is acceptable for use for snow-making.

The proposed treatment process to upgrade the existing wastewater treatment plant to tertiary treatment level is briefly described in the following.

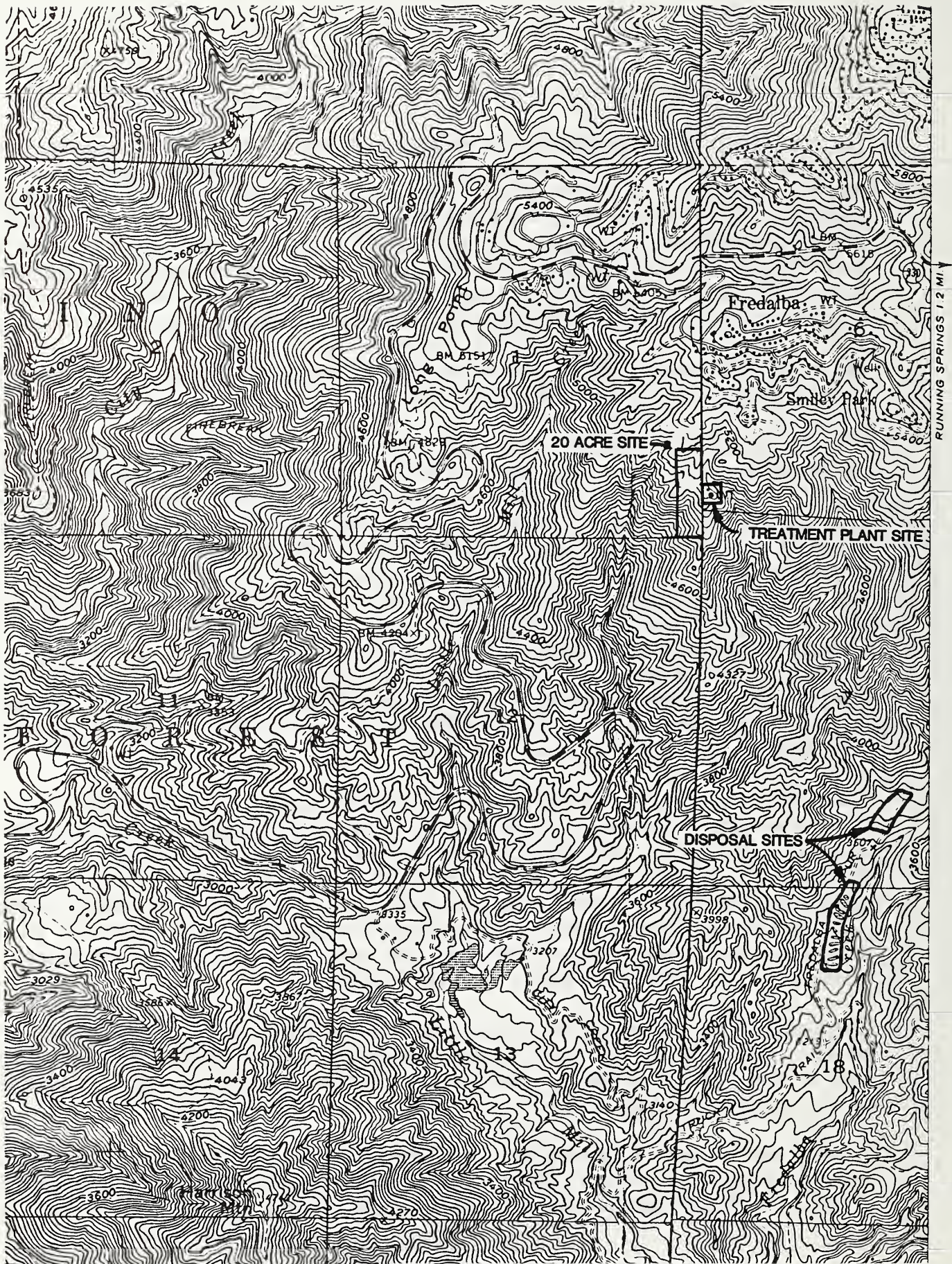
A 300,000 gallon flow equalization tank would be constructed to dampen flow variations in the wastewater flows from the existing treatment facilities. The effluent from the existing clarifiers would be diverted to this tank prior to being pumped to the proposed treatment processes. Because of limited land availability at the existing site, the proposed treatment processes will be located on a recently acquired 20-acre site located immediately west of the existing site (Figure 1-2). The proposed treatment facilities shown in Figure 1-3 would consist of two prefabricated process units with a 0.5 MGD capacity each. A coagulation aid such as alum is added to the influent to promote coagulation of the smaller particles into larger particles. This water flows upward through an adsorption clarifier containing granular, buoyant media capable of adsorbing and trapping the coagulated particles from the water. This unit is capable of removing as much as 95 percent of the original influent turbidity. The effluent from this unit is further treated via a mixed media filter unit to produce the finished water. The filter unit contains a mix of materials which hydraulically grade from coarse to fine in the direction of flow.

The filtered water flows into a clearwell basin with a 24,000 gallon capacity. The basin also acts as a wet well for the transmission pipeline booster pumps as well as providing water for backwashing the filtration unit. Water is automatically pumped to backwash the filtration unit when the differential pressure across the filter media increases to a selected level. Backwash water pumped through the filter media is stored in a backwash holding tank to allow the solids (sludge) to settle out. The settled solids are drawn from the tank bottom and discharged to the interceptor sewer main to the existing wastewater treatment plant. The settled water is returned to the secondary treatment process. A process diagram is shown in Figure 1-4.

A separate chlorine contact basin for effluent disinfection will not be provided. Disinfection is to occur by injection of chlorine into the transmission pipeline proposed to transmit the reclaimed water to Snow Valley Ski Resort site. The detention time of more than 3 hours within the pipeline provides ample chlorine contact time.

Provision has been made in the site plan shown in Figure 1-3 for a future operations center for the entire wastewater treatment plant. The site proposed for the tertiary plant slopes to the southwest at a slope of 15 to 20 percent and would require extensive grading. Several terraces would be

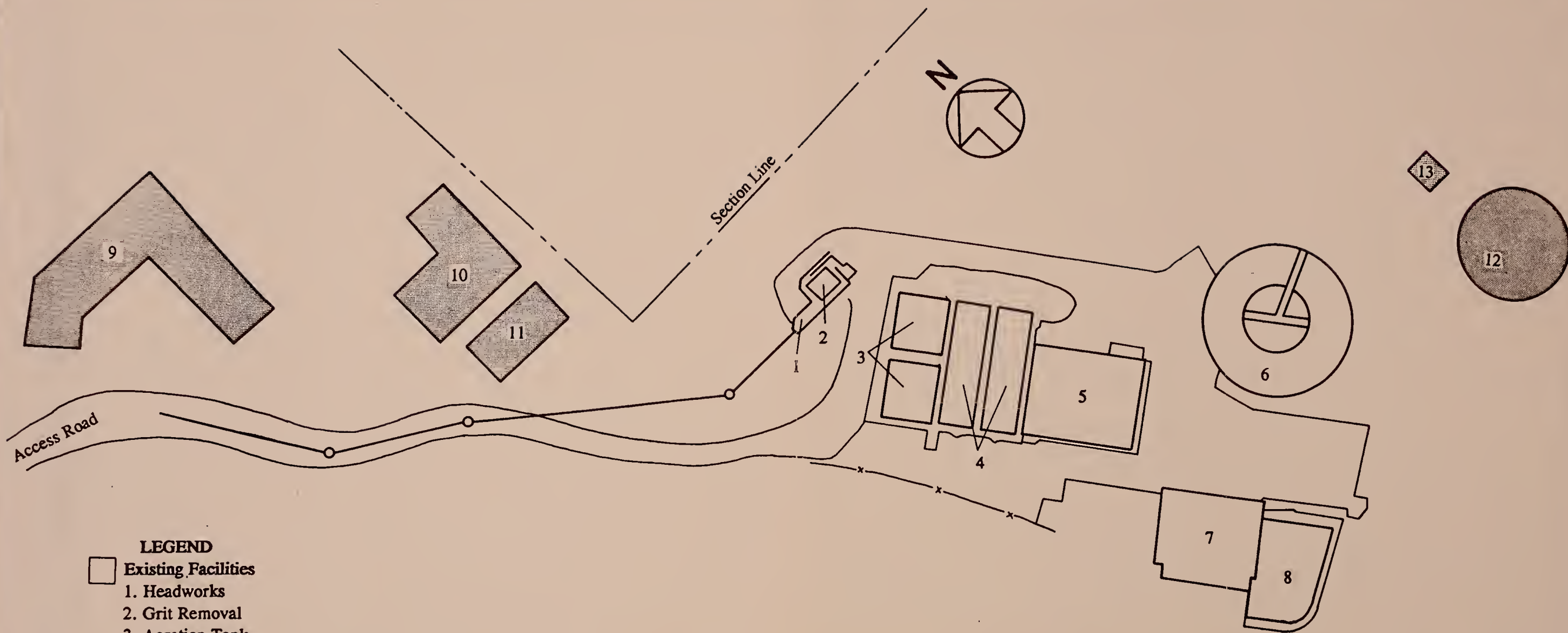




PROJECT SITE

FIGURE 1-2





- LEGEND**
- Existing Facilities
- 1. Headworks
  - 2. Grit Removal
  - 3. Aeration Tank
  - 4. Clarifier Tank
  - 5. Operations Building
  - 6. Aerobic Digester
  - 7. Sludge Handling
  - 8. Sludge Drying
- Proposed Facilities
- 9. Future Operations Complex
  - 10. 2-5 MGD Water Treatment Units
  - 11. Backwash Recovery Tank
  - 12. Effluent Equalization Tank
  - 13. Pump Station

EXISTING AND PROPOSED WASTEWATER TREATMENT FACILITY

FIGURE 1-3



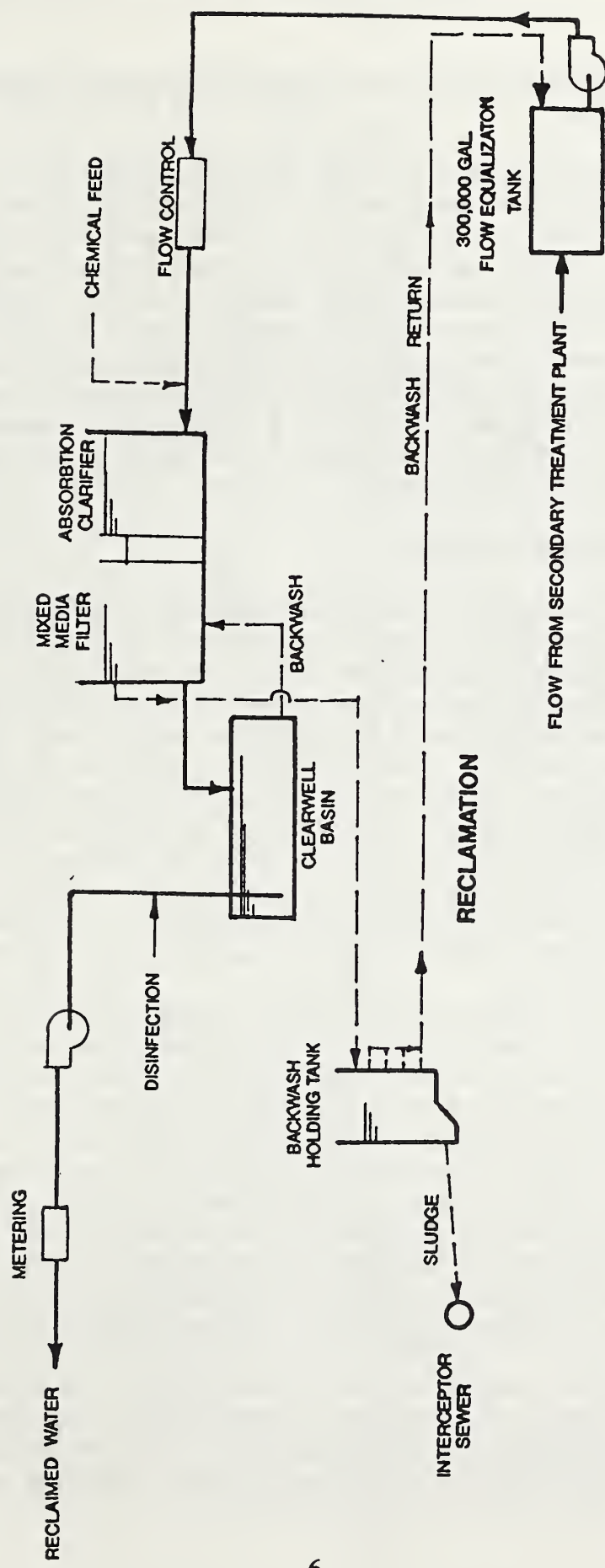


FIGURE 1-4 TERTIARY TREATMENT PROCESS

excavated at the site, creating slope cuts of 1.5 to 1 (horizontal to vertical). Approximately 1 acre would be disturbed at this site.

The treatment plant would produce about 0.6 MGD during initial operation in the early to mid-1990s. This is expected to increase steadily to 1.0 MGD by about 2011. It should be noted that the project would not affect future wastewater flows. It would, however, treat those flows to a tertiary level of treatment. The District would continue to maintain the existing effluent disposal system (consisting of percolation/evaporation basins and spray irrigation) in the Fredalba Creek drainage, located one mile to the southeast and at an elevation which is 1,850 feet lower than the treatment plant. This disposal system would be used for disposing of excess effluent and for emergency discharge purposes in the event of a power failure in the tertiary treatment system or in the pumps operating along the reclaimed water pipeline. Approximately 10 percent of the treated wastewater would continue to be piped to the Fredalba disposal system. The remaining 90 percent of the treated water would be available for reuse.

### **1.2.2 Reclaimed Water Pipeline**

The second component of the project would involve construction of approximately 9 miles of 10-inch diameter pipeline to transport the reclaimed water to Snow Valley Ski Resort (Figure 1-5). The pipe would extend north from the treatment plant, up the mountainside to Smiley Park a neighborhood in western Running Springs. The pipe would then parallel Little Mill Creek for a short distance, passing underneath Highway 330. The pipe would follow a residential road, paralleling Highway 330 to the north. Immediately prior to the junction of Highway 330 with Highway 18, the pipe would cross underneath the former and remain to the south of Highway 18 for the remainder of its length. Both crossings of Highway 330 would be bored underneath the roadway so as to avoid affecting traffic. For the next 2 miles the pipe would follow an existing sewer line easement to the Forest Service Deer Lick Fire Station. The line would then be constructed through the parking lot of the Fire Station in order to avoid disturbing riparian vegetation which has become re-established in the sewer easement running past the station.

At this point the line would follow Keller Peak Road for a distance of 2 miles. This is a well-paved, narrow, two-lane road. Two miles up this road, the pipeline route would then follow an unpaved road to the edge of the land leased by Snow Valley Ski Resort. The route would then cross the upper portion of the South Fork of Dry Creek along a length of 0.2 miles of undisturbed land before reaching an existing unpaved service road located on the ski resort. The final one-half mile of pipeline would follow this road terminating at an existing 16 MG (approximately 50 acre-ft) capacity reservoir located at the ski resort. As an alternative to directly discharging to the reservoir, the pipeline may be routed to discharge to a small drainage above the reservoir. The discharged water would then flow down the drainage and into the reservoir, enhancing aeration of the reclaimed water. A small dechlorination unit would be constructed near the reservoir to remove the residual chlorine from the reclaimed water prior to discharge for storage in the reservoir.

To enhance fire-fighting capabilities in the area, fire hydrants would be constructed along portions of the reclaimed water line where no nearby hydrants currently exist. In addition special outlets from the pipeline are being considered, in cooperation with the Forest Service, for wildlife water sources and for establishment of riparian habitat in selected small drainages along the pipeline route.



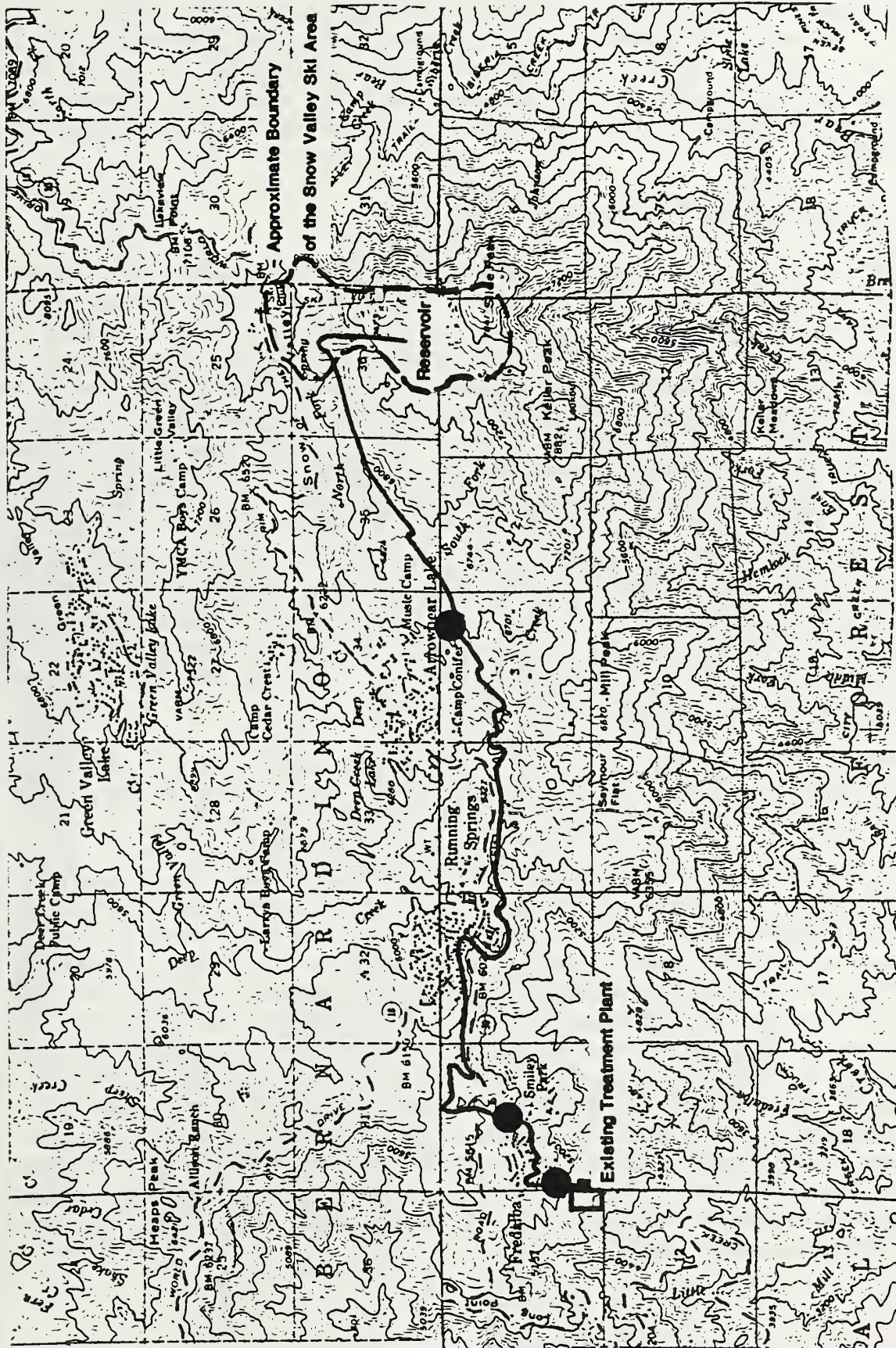


FIGURE 1-5

# PROPOSED ROUTE OF THE RECLAIMED WATER PIPELINE

1" = 1 mile

— 10 Inch Pipeline

● Pump Station



Three booster pump stations would be constructed along the pipeline as shown in Figure 1-5. The first would be located at the treatment plant. The second pump station would be located on Fredalba Road, in Smiley Park. The third pump station would be located along Keller Peak Road at the intersection of an existing dirt road extending just to the south of the community of Arrowbear. Electrical power would be available at all three sites via short extensions from existing electrical lines.

### **1.2.3 Snow-Making With Reclaimed Water**

The final major component of the project would be the reclaimed water storage, application and runoff control system at the Snow Valley Ski Resort. The ski resort currently operates a snow-making system covering 160 acres (Figure 1-6). As much as 3 MGD of water are utilized for snow-making at the ski resort when the temperature drops into the lower 20s. During most of the ski season, snow-making occurs only at night, after the ski runs have closed down. However, early in the season, the snow-making equipment may be operated around the clock in order to build up an adequate snow base. The system is operated throughout the ski season as necessary to maintain a minimum snow base of three feet. Depending upon the seasonal conditions, snow-making usually begins in mid-November and continues through mid-February.

Reclaimed water would be piped to the reservoir as needed to assure an adequate supply of water for snow-making. The amount of reclaimed water supplied to the ski resort would vary according to the amount of snow and natural runoff produced in a given year. With the current snow-making system, during a dry year comparable to 1990-91, up to 70 MG (215 acre-ft) would be used. In addition reclaimed water would be used during the summer to irrigate the ski slopes in order to maintain a good grass cover, thus minimizing erosion potential.

The ski resort intends to install new snow-making equipment on its highest ski runs on the north and northwest slopes of Slide Peak (ski runs 8 through 11). This would increase the peak potential demand for reclaimed water to about 120 MG in a winter season (about 370 acre-ft).

Runoff from the Snow Valley Ski Resort enters the North Fork of Deep Creek. Regulations enforced by the Lahontan Regional Water Quality Control Board prohibit direct discharge of wastewater in Deep Creek. This has been interpreted to also prohibit the discharge of meltwater from reclaimed water utilized for snow-making. Thus the project would be designed to contain the snowmelt from those areas of the ski resort receiving manmade snow since at least a portion of that snow would have been derived from reclaimed water. Some of the runoff from the manmade snow areas of the resort currently flows directly to the reservoir and is therefore contained onsite. Most of the remainder flows north toward the ski resort parking lot and is drained to the North Fork of Deep Creek via culverts. Under the Preferred Alternative, these flows would be routed in a separate, newly constructed culvert to a lined, underground holding tank. From there, the water would be pumped to the storage reservoir. In the event that the storage reservoir was to approach a filled condition, the captured runoff would be conveyed by gravity down the reclaimed water pipeline, past the wastewater treatment plant, and down to the existing Fredalba drainage wastewater disposal system for release.



# CURRENT SNOW-MAKING SYSTEM AT SNOW VALLEY SKI RESORT

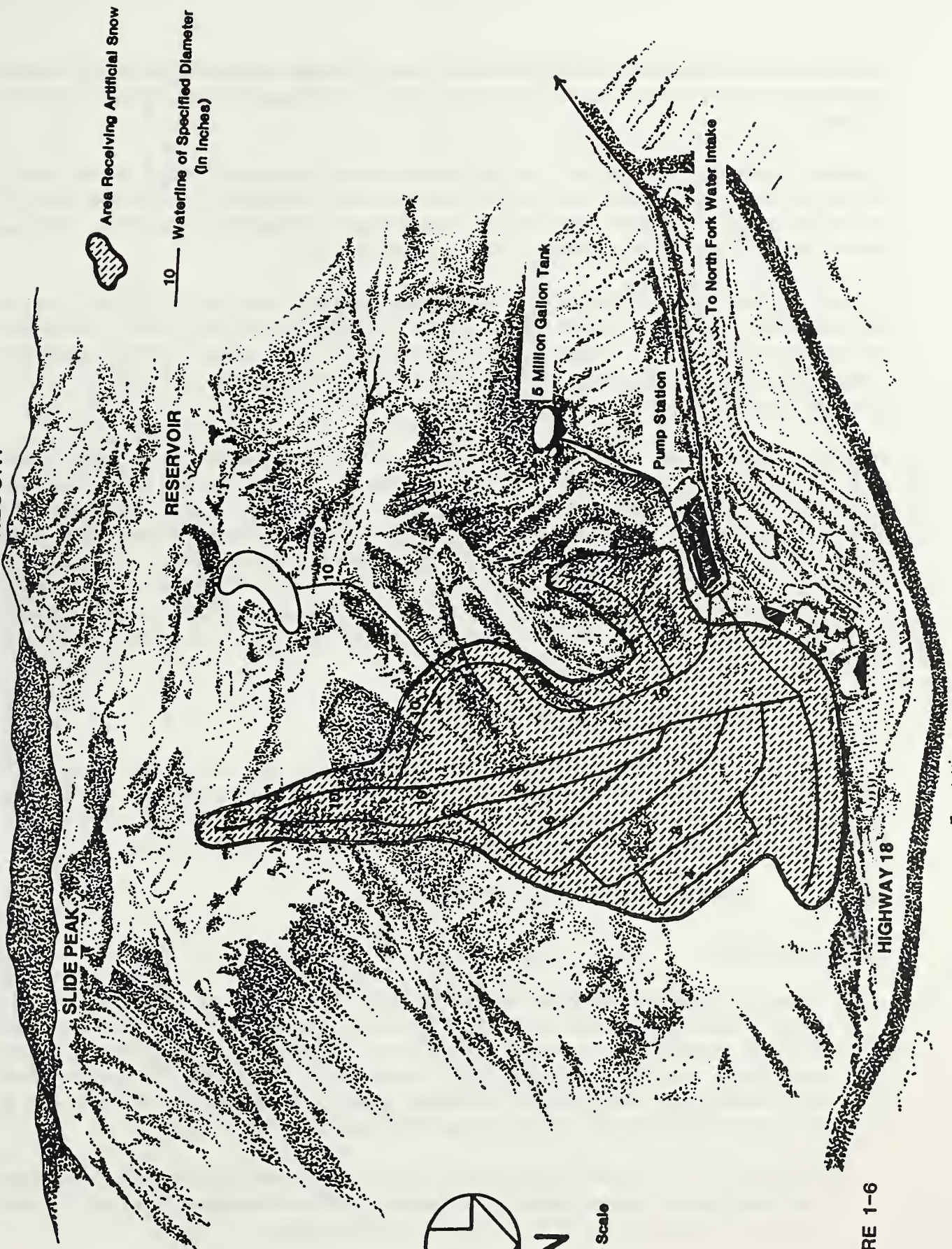


FIGURE 1-6



Flows from other portions of the North Fork-Deep Creek drainage would move through the existing culvert system and proceed downstream of the ski resort. A schematic of this concept is shown in Figure 1-7.

Currently, water piped between the 5 million gallon tank and the storage reservoir moves through the snow-making system water lines. As part of the Preferred Alternative, a 15-inch diameter pipe would be constructed directly connecting the storage tank with the storage reservoir. The line would follow existing ski runs or other previously disturbed land.

Variation 1 of the Preferred Alternative would eliminate the requirement to contain runoff from the ski area onsite. Instead, all runoff, including snowmelt containing reclaimed water, would flow directly into the North Fork. Implementation of Variation 1 would require a variance against the general prohibition of effluent discharge into Deep Creek (above an elevation of 3,200 feet) by the Lahontan Regional Water Quality Control Board.

Six alternatives were also evaluated. Two of these alternatives evaluated uses for the reclaimed water in addition to its use at the Snow Valley Ski Resort: park irrigation and groundwater recharge/recovery for municipal use. Another alternative evaluated transporting the reclaimed water to the ski resort by truck, instead of constructing the pipeline. An additional alternative investigated the impacts of utilizing existing private wells to supply water to the ski resort. One alternative reviewed the imposition of additional wastewater treatment to achieve nutrient removal and the resulting impact of releasing snowmelt from reclaimed water into the local stream system. Finally, the No-Action Alternative, involving no treatment plant upgrade and no reuse of the effluent, was reviewed.

### **1.3 SUMMARY OF IMPACTS**

A summary of the environmental impacts of all alternatives are presented in this section. The following environmental resource areas are presented: geology/soils, wastewater treatment/reuse, water resources, biological resources, cultural resources, land use, traffic, and aesthetics. Mitigations are summarized in this section and enumerated in more detail in Section 4.

#### **1.3.1 Impacts of the Preferred Alternative**

##### **Geology and Soils**

Impacts: Upgrades to the treatment plant plus the initial length of reclaimed water pipeline would disturb soils on slopes as steep as 40 percent. Four other sections of the pipeline would be constructed on moderate to steep slopes ranging from 6 to 19 percent. Erosion in these areas would be greatly accelerated, causing significant impact. The pipeline would cross a fault in the western portion of Running Springs. Possible rupture of the pipeline in the event of an earthquake would not pose significant hazard.

The project would provide sufficient water to allow the summer irrigation of the ski slopes. This would allow the establishment of a good grass cover and mitigate the existing erosion problems currently occurring on several of the steeper slopes.

# CURRENT AND PROPOSED DRAINAGE SYSTEM AT SNOW VALLEY SKI RESORT





Mitigation Measures: Project grading would occur just before site construction commences. Construction activities would be limited to the drier months. An erosion control plan will be developed by the construction contractor and approved by the Forest Service. All disturbed areas would be reseeded, with special attention paid to monitoring the success of reseeding efforts at the five steeper areas discussed above.

Residual Impact: The impacts would be mitigated to nonsignificant levels.

## **Water Treatment and Reuse**

Impacts: The project would greatly improve the quality of effluent produced by the Running Springs Wastewater Treatment Plant. The project would eventually produce up to one MGD (1,120 acre-ft/yr) of reclaimed water. Up to 528 acre-ft/year would be utilized by the nearby Snow Valley Ski Resort for snow-making and summer irrigation on over 200 acres of ski runs. The reclaimed water could also eventually be utilized for other purposes such as park irrigation and perhaps augmentation of the municipal water supply. The project would therefore have a beneficial impact.

Mitigation Measures: Total coliforms would be monitored daily to assure that the required level of disinfection is being achieved. Signs would be erected at the ski resort advising skiers of the use of reclaimed water. An operations manual specifying specific conditions for reclaimed water use and storage would be developed.

Residual Impacts: No significant impacts.

## **Water Resources**

Impacts: The reclaimed water pipeline would cross and/or parallel 7 intermittent drainages and its construction could cause short-term sedimentation and turbidity with possibly significant impacts. Storage of reclaimed water in the reservoir at the ski area will result in a degradation in water quality because the nutrient-rich content of the reclaimed water would cause eutrophic conditions in the lake. This is not considered significant because the lake is small and is used primarily for sediment control and for storage of water for snow-making. Under the project, there would be no outflow from the lake and downstream water quality would be unaffected. Snowmelt from the slopes receiving reclaimed water would be collected and stored onsite; there would be no surface runoff to the North Fork of Deep Creek. Spring runoff to the stream may decline slightly, but this would be made up through enhanced recharge to the creek during the summer lowflow season. Water quality could decline slightly during this season due to increases in TDS and nitrate. However significant water quality impacts are not expected.

Mitigation Measures: Pipeline drainage crossings would be constructed during the drier summer months during periods of no flow. Where practical, roadway crossings of drainages would be utilized. Where the pipeline parallels a drainage, a minimum undisturbed buffer of 15 feet would be maintained between trench disturbance and the creek bank. An aerator would be installed in the reservoir at the ski resort to ensure aerobic conditions are

maintained. An intensive water quality and aquatic biology monitoring program would be carried out for three years following initiation of reclaimed water delivery at the Snow Valley Ski Resort.

Residual Impacts: The impacts would be mitigated to nonsignificant levels.

## **Biological Resources**

Impacts: A total of 7.5 acres of vegetation would be disturbed, most of it yellow pine forest. This includes 1 acre at the existing treatment plant site and 6.5 acres along the pipeline route. There would be minor amounts of riparian woodland and riparian scrub communities. No sensitive wildlife species would be seriously impacted. The spotted owl, which inhabits the yellow pine forest, could be temporarily disturbed during pipeline construction. However tree removal would be minimal and permanent impacts to this species are not expected. A spring survey has identified several locations of sensitive plant species, including the San Bernardino jewelflower and San Bernardino owl's clover, which lie along the pipeline route (refer to Section 2.2.2). Prior to construction, these locations would be flagged and the pipeline routed to avoid disturbing them.

Most of the project construction would occur at some distance from streams in the area. Given their intermittent nature, downstream impacts to fish species in the larger streams (Deep and Fredalba Creeks) are not expected. Underflow to the North Fork of Deep Creek would be enhanced by the project, increasing the lowflow in the creek during the summer and fall periods. By providing a more stable baseflow, the project would tend to enhance the fisheries potential of this portion of the upper drainage of Deep Creek, thereby providing a beneficial impact.

Mitigation Measures: Erosion-prone ski slopes will be seeded with an acceptable grass mixture. The pipeline will be routed to minimize tree removal. Larger trees proposed for removal must be first surveyed and then replaced at a 3:1 ratio. A biological monitor will be present during construction activities in riparian areas or near locations of sensitive plant species in order to assure that sensitive plant and animal habitats are avoided where specified in the Biological Evaluation prepared for this project. An aquatic biological monitoring program will be carried out for three years after completion of project construction. If results from the intensive stream monitoring program demonstrated harm to aquatic life, resulting from project water quality impacts, corrective measures would be implemented. These could include upgrade of the wastewater treatment to include phosphorus and/or nitrogen removal. The District and the Forest Service will initially cooperate in establishing riparian habitat in two local drainages, using reclaimed water. After several seasons of successful operation, additional sites for riparian enhancement will be considered. Finally, after the project becomes operational, direct pumpage from the North Fork by the ski resort shall cease. Additional mitigations are presented in Section 4: the Mitigation Monitoring Program.

Residual Impacts: The impacts would be mitigated to nonsignificant levels.



## **Cultural Resources**

**Impacts:** The project would not disturb any known historic or prehistoric resources and would therefore have no significant impacts.

**Mitigation Measures:** Two locations densely covered with vegetation (the expanded treatment plant site and the section of pipeline between Fredalba Road and Highway 330) would be viewed for cultural remains immediately after initial clearance of vegetation. A cultural monitor would observe pipeline trench excavation within the Fredalba section of Running Springs, the oldest portion of the town. If cultural features are unearthed, construction at that site would cease until the features are examined by an archeologist.

**Residual Impacts:** No significant impacts.

## **Land Use**

**Impacts:** Neither the treatment plant upgrades nor the pump stations would significantly impact existing land uses. The enhanced recreation potential at the Snow Valley Ski Resort resulting from the improved water supply for snow-making is consistent with the goals of the San Bernardino National Forest Land and Resource Management Plan.

**Mitigation Measures:** Limit construction activities to normal working hours and conduct the boring operations underneath Highway 330 as rapidly as possible to minimize disturbance to the affected neighborhoods.

**Residual Impacts:** No significant impacts.

## **Traffic**

**Impacts:** During pipeline construction a minimum of one lane would remain open at all times, allowing automobile access. State highways would not be affected because the pipeline would be bored underneath at the two crossings of Highway 330. The project would not increase skier capacity at the ski resort and would therefore not affect traffic during normal seasons. Traffic impacts would not be significant. However, by providing for enhanced snow-making at the Snow Valley Ski Resort, the project could attract additional skiers and associated traffic during years of greatly-below-normal snowfall. During these latter periods, the project might reduce the amount of traffic headed further east to the Big Bear ski areas, by providing skiing opportunities nearer to San Bernardino.

**Mitigation Measures:** Flagmen would be utilized to control two-way traffic, as required, during pipeline construction. At the end of each construction day, all open trenches would be either filled in with dirt or covered with steel plate. Permits will be obtained from Caltrans for the two state highway crossings.

**Residual Impacts:** No significant impacts.



## **Aesthetics**

**Impacts:** The project is generally not viewable except at close range. Pipeline installation on the mountainside above the treatment plant would be visible for a considerable distance. This impact is largely offset by the existing disturbed condition created by the installation of another pipeline several years ago.

A change in the water quality of the small reservoir at the ski resort to a eutrophic status would likely result from the introduction of reclaimed water. Should the Forest Service implement plans to provide trail access and public recreation at the reservoir, a cumulative aesthetics impact would result.

**Mitigation Measures:** The disturbed hillside and other selected pipeline locations would be revegetated, eliminating the construction scars.

**Residual Impact:** The cumulative aesthetics impact of the reservoir would be unavoidable if it is opened to public use by the Forest Service.

### **1.3.2 Variation 1 of the Preferred Alternative**

## **Geology and Soils**

Refer to the discussion for the Preferred Alternative.

## **Wastewater Treatment and Reuse**

The impacts would be the same as under the Preferred Alternative except that melting reclaimed water would not be retained onsite but would be discharged to the North Fork of Deep Creek. This would require an exemption from the Lahontan Regional Water Quality Control Board. In addition to the mitigations for the Preferred Alternative, signs would be posted at selected locations along the North Fork of Deep Creek advising the public that the creek may contain reclaimed water during periods of snowmelt.

## **Water Resources**

**Impacts:** The impacts would be largely the same as those under the Preferred Alternative. However, substantially more water would flow in the North Fork of Deep Creek during the spring snowmelt period, augmenting natural flow. In addition, the quality of the North Fork of Deep Creek would be significantly impacted during this period as melting reclaimed water would flow directly into the creek. TDS, chloride, total phosphorus, nitrate and total nitrogen would be greatly elevated for a short period, substantially exceeding stream standards. The water quality impact upon the middle and lower portions of Deep Creek would not be measurable.

**Mitigation Measures:** See the Preferred Alternative.

**Residual Impacts:** Significant, short-term water quality impact to the North Fork would be unavoidable.

## **Biological Resources**

**Impacts:** In addition to the biological impacts summarized under the Preferred Alternative, Variation 1 may have a beneficial affect upon aquatic life in the North Fork of Deep Creek. Compared to existing conditions, spring runoff and summer lowflows in the North Fork would tend to increase under Variation 1, providing a more stable stream habitat than has existed during the recent drought, when this stream was dry for long periods. The transient increase in phosphorus and nitrogen loads to the upper portion of the creek may impact aquatic life by increasing algae productivity and possibly boosting ammonia concentrations in the water. The temporary decline in stream water quality during the spring snowmelt period would occur during a period of limited stream productivity. No toxic impacts are expected and significant impacts to aquatic life are unlikely. Due to the dilution from inflow from large downstream areas, no impacts would occur in the middle or lower reaches of Deep Creek.

**Mitigation Measures:** Refer to the biological mitigation measures for the Preferred Alternative. An aquatic biological monitoring program will be carried out for three years after completion of project construction. If results from the intensive stream monitoring program demonstrated harm to aquatic life, resulting from project water quality impacts, corrective measures would be implemented. These could include containment of some or all of the spring runoff from the ski slopes sprayed with reclaimed water or nutrient removal at the wastewater treatment plant.

**Residual Impacts:** Significant biological impacts are not expected.

## **Cultural Resources**

Refer to the discussion for the Preferred Alternative.

## **Land Use**

Refer to the discussion for the Preferred Alternative.

## **Traffic**

Refer to the discussion for the Preferred Alternative.

## **Aesthetics**

Refer to the discussion for the Preferred Alternative.

### **1.3.3 Alternative 1 - Use of Reclaimed Water for Irrigation**

#### **Geology and Soils**

**Impacts:** The impacts would be the same as under the Preferred Alternative except that an additional 0.5 miles of reclaimed water pipeline would be installed to two irrigation sites. The additional pipe installation would be entirely within existing roads.

**Mitigation Measures:** See the Preferred Alternative

**Residual Impacts:** The impacts would be mitigated to nonsignificant levels.

#### **Wastewater Treatment and Reuse**

Refer to the discussion for the Preferred Alternative. Alternative 1 would utilize slightly more reclaimed water (4.5 acre-ft/yr) due to added irrigation opportunities. The District will promote other reclaimed water opportunities for irrigated areas.

#### **Water Resources**

**Impacts:** See the Preferred Alternative

**Mitigation Measures:** In addition to those discussed under the Preferred Alternative, irrigation of park land at Arrowbear Lake will be no closer than 50 feet from the lakeshore in order to avoid direct inflow of reclaimed water into the lake.

**Residual Impacts:** The impacts would be mitigated to nonsignificant levels.

#### **Biological Resources**

Refer to the discussion for the Preferred Alternative.

#### **Cultural Resources**

Refer to the discussion for the Preferred Alternative.

#### **Land Use**

Refer to the discussion for the Preferred Alternative. The availability of reclaimed water for irrigation may stimulate the development of additional parks and public landscaped areas over the long term.

#### **Traffic**

Refer to the discussion for the Preferred Alternative.



#### **1.3.4        Alternative 2 - Use of Reclaimed Water for Incidental Groundwater Recharge and Recovery**

##### **Geology and Soils**

Impacts: This alternative would disturb a total of 9 acres, including the new wellsite. The impacts would be essentially the same as those discussed under the Preferred Alternative.

Mitigation Measures: In addition to those listed under the Preferred Alternative, the following mitigations relevant to the wellsite will be carried out. The well(s) will be sited a minimum of 50 feet from the North Fork of Deep Creek. After construction the well access area will be covered with gravel and the remaining disturbed area revegetated.

Residual Impacts: The impacts would be mitigated to nonsignificant levels.

##### **Wastewater Treatment and Reuse**

Impacts: Reservoir seepage is estimated to add 43 acre-ft/yr to the local groundwater. This alternative would recover this recharge for use in the municipal water supply.

Mitigations: In addition to those list under the Preferred Alternative, the following measures would be carried out. An engineering study will be conducted to assure that applicable state guidelines are met. The District will work closely with the Forest Service to mitigate impacts due to well and access road construction.

Residual Impacts: No significant impacts.

##### **Water Resources**

Impacts: In addition to the impacts discussed under the Preferred Alternative, a decline in the local groundwater table surrounding the well(s) would occur. This could slightly reduce flows in the North Fork of Deep Creek.

Mitigation Measures: See the Preferred Alternative.

Residual Impacts: The impacts would be mitigated to nonsignificant levels.

##### **Biological Resources**

This alternative would result in the disturbance of an additional 1.5 acres of yellow pine forest. Otherwise see the discussion for the Preferred Alternative.

##### **Cultural Resources**

Refer to the discussion for the Preferred Alternative.

## **Land Use**

Refer to the discussion for the Preferred Alternative. This alternative would require a Special Use Permit from the Forest Service for the wellsite.

## **Traffic**

Refer to the discussion for the Preferred Alternative.

### **1.3.5 Alternative 3 - Trucking of Reclaimed Water to Snow Valley**

## **Geology and Soils**

**Impacts:** Only 1.5 acres would be disturbed under Alternative 3. All pipeline impacts would be avoided, as would the potential for pipeline rupture in the event of a local earthquake. No significant impacts would occur.

**Mitigation Measures:** Standard construction and erosion control practices will be applied at the treatment plant site.

**Residual Impacts:** No significant impacts.

## **Wastewater Treatment and Reuse**

**Impacts:** In addition to the tertiary treatment upgrades discussed under the Preferred Alternative, a one-half million gallon storage tank would be constructed at the treatment plant site. No reclaimed water pipeline would be constructed. Reclaimed water use would be somewhat less than under the Preferred Alternative: 155 to 215 acre-ft/yr.

**Mitigation Measures:** In addition to those measures listed under the Preferred Alternative, the truck loading platform will drain directly to the incoming sewer to assure capture of any spilled reclaimed water.

**Residual Impacts:** No significant impacts.

## **Water Resources**

**Impacts:** There would be a slight decrease in the potential for recharge to the North Fork of Deep Creek (a beneficial impact) when compared to the Preferred Alternative. Also, there would be a very small risk of stream contamination in the event of a trucking accident. Impacts would not be significant.

**Mitigation Measures:** An aerator will be installed in the reservoir to maintain aerobic conditions and a three-year stream monitoring program will be initiated following project construction.

Residual Impacts: No significant impacts.

### **Biological Resources**

Impacts: 1.5 acres of southern mixed chaparral would be disturbed at the treatment plant site. No sensitive species would be affected and impacts would not be significant.

Mitigation Measures: Revegetate the exposed slopes at the treatment plant site and carry out the three-year stream monitoring program.

Residual Impacts: No significant impacts.

### **Cultural Resources**

Project Impacts: Under Alternative 3, potential impacts associated with the reclaimed water pipeline would be avoided. There would be no significant impacts.

Mitigation Measures: After initial vegetation clearance at the treatment plant site, the area will be surveyed by an Archeologist for possible surficial artifacts.

Residual Impacts: No significant impacts.

### **Land Use**

Impacts: No significant impacts.

Mitigation Measures: None required.

Residual Impacts: No significant impacts.

### **Traffic**

Impacts: The truck traffic resulting from this alternative would average 34 roundtrips per day between the treatment plant and Snow Valley Ski Resort. Peak truck traffic could be as high as 250 roundtrips per day. This would significantly impact traffic on Highways 330 and 18.

Mitigation Measures: On winter weekends and holidays, project-related trucks will avoid the peak, daylight traffic periods. The access road to the treatment plant will be widened as necessary to accommodate the passage of two trucks traveling in opposite directions.

Residual Impacts: Significant traffic impacts would remain unavoidable.



### **1.3.6          Alternative 4 - Nutrient Removal for Discharge to Deep Creek**

#### **Geology and Soils**

Refer to the discussion for the Preferred Alternative.

#### **Wastewater Treatment and Reuse**

Impacts: The use of reclaimed water would be the same as under the Preferred Alternative. However the nitrogen levels in the reclaimed water would be reduced to 2 mg/l (as N) and phosphorus levels would be reduced to about 1 mg/l as a result of a higher level of treatment.

Mitigation Measures: See the Preferred Alternative.

Residual Impacts: No significant impacts.

#### **Water Resources**

Impacts: Despite the additional wastewater treatment, the reclaimed water would still result in water quality impacts due to the very low background nutrient levels in the water bodies at the ski area. Eutrophic conditions would develop in the reservoir at the ski area, although algae concentrations would probably be somewhat less than under the Preferred Alternative. This would not be a significant impact, as explained under the Preferred Alternative. Melting reclaimed water would not be retained onsite but would flow to the North Fork of Deep Creek. This would result in short-term exceedances of the water quality objectives for the creek during the spring runoff period, a significant impact. However nitrogen and phosphorus levels in the creek would be lower than under the Variation 1 of the Preferred Alternative.

The construction-related impacts would be similar to those of the Preferred Alternative.

Mitigation Measures: Refer to the discussion under the Preferred Alternative.

Residual Impacts: Significant, short-term water quality impacts to the North Fork of Deep Creek would be unavoidable.

#### **Biological Resources**

Construction impacts and mitigations would be similar to these of the Preferred Alternative. This alternative would result in increased flow in the North Fork of Deep Creek, as compared to the Preferred Alternative, and would be similar to Variation 1. Although water quality standards would still be exceeded during the spring runoff period, the lower nitrogen and phosphorus loads would be somewhat less likely to alter aquatic biota conditions in the creek.

## **Cultural Resources**

Refer to the discussion for the Preferred Alternative.

## **Land Use**

Refer to the discussion for the Preferred Alternative.

## **Traffic**

Refer to the discussion for the Preferred Alternative.

### **1.3.7 Alternative 5 - Trucking Water from Existing Wells**

## **Geology and Soils**

Impacts: Since none of the project features would be constructed, no impacts would occur.

Mitigation Measures: None.

Residual Impacts: None.

## **Wastewater Treatment and Reuse**

Impacts: Under this alternative, there would be no treatment plant upgrades nor any reclamation of wastewater in the Running Springs area. Additional capacity would be required at the current wastewater disposal site, resulting in a significant impact.

Mitigation Measures: The District will work closely with the Forest Service to bring online additional spray irrigation facilities as the capacity of the current disposal system is approached.

Residual Impacts: No significant impacts.

## **Water Resources**

Impacts: Between 155 and 215 acre-ft/yr of groundwater would be pumped from privately-owned wells and delivered to the Snow Valley Ski Resort. Local reductions in groundwater levels would occur and could intensify water shortages during times of drought. Thus the impacts would be significant. There is no assurance that the ski resort could obtain sufficient water for snow-making under this alternative.

Mitigation Measures: Snow Valley Ski Resort will negotiate satisfactory agreements with individual well owners for utilization of well water.

Residual Impacts: Significant groundwater impacts to other nearby wells could still occur.



## **Biological Resources**

**Impacts:** Since no project facilities would be constructed, there would be no construction-related impacts to biota. The additional water applied to make snow on the ski slopes would augment flow in the North Fork of Deep Creek during spring runoff, with associated benefits to aquatic habitat.

With regard to expansion of the disposal area, a survey of the biota of several possible locations indicated no significant impacts would result.

**Mitigation Measures:** None.

**Residual Impacts:** No significant impacts.

## **Cultural Resources**

No impacts would occur.

## **Land Use**

**Impacts:** The current disposal site on National Forest System land would need to be expanded by up to 10 acres. This would not be a significant impact.

**Mitigation Measures:** The District will apply to the Forest Service for a Special Use Permit for the expansion.

**Residual Impacts:** No significant impacts.

## **Traffic**

**Impacts:** Trucks would be utilized to transport well water to the Snow Valley Ski Resort, but only during the ski season (late fall through winter). Up to 250 truck trips per day would occur on Green Valley Road and/or Highway 18. Traffic impacts would be significant.

**Mitigation Measures:** See Alternative 3.

**Residual Impacts:** Significant traffic impacts would be unavoidable.

### **1.3.8          Alternative 6 - The No-Action Alternative**

## **Geology and Soils**

No impacts would occur.

## **Wastewater Treatment and Reuse**

**Impacts:** Under this alternative, there would be no treatment plant upgrades nor any reclamation of wastewater in the Running Springs area. Additional capacity would be required at the current wastewater disposal site, resulting in a significant impact.

**Mitigation Measures:** See Alternative 5.

**Residual Impacts:** No significant impacts.

## **Water Resources**

**Impacts:** Project-related impacts would be avoided. The amount of treated effluent disposed of at the current site in the Fredalba Creek Drainage would gradually increase from 0.6 to about 1 MGD. Underflow of the water to Fredalba Creek would increase creek flow slightly but would probably not substantially change current creek water quality. Impacts would not be significant.

**Mitigation Measures:** None.

**Residual Impacts:** No significant impacts.

## **Biological Resources**

**Impacts:** Since no project facilities would be constructed, there would be no construction-related impacts to biota.

With regard to expansion of the disposal area, a survey of the biota of several possible locations indicated no significant impacts would result.

**Mitigation Measures:** None.

**Residual Impacts:** No significant impacts.

## **Cultural Resources**

**Impacts:** Since no project facilities would be constructed, there would be no construction-related impacts.

With regard to expansion of the disposal area, a cultural resource survey of several possible locations indicated no significant impacts would result.

**Mitigation Measures:** None.

**Residual Impacts:** No significant impacts.

## **Land Use**

Refer to Alternative 5.

## **Traffic**

No impacts would result from this alternative.

## **2. PUBLIC COMMENT PROCESS AND ADDITIONAL ISSUES ANALYZED**

### **2.1 PUBLIC REVIEW OF THE DRAFT EIR/EIS**

A Public Hearing, advertised in public notices published in the Running Springs Alpenhorn and the San Bernardino Sun, was held the morning of August 29, 1992 at Fire Station No. 51 in Running Springs. Representatives from the District, the Forest Service, the Project Engineering Consultant, and the Project Environmental Consultant were in attendance. Three local citizens also attended the meeting. A presentation of the project and its environmental impacts was given. The only substantial question concerned the approach to financing the proposed project.

The Draft EIR/EIS was published in July 1992 and circulated for a 45-day comment period which ended on September 8, 1992. A total of 71 comments were received from 16 agencies and organizations:

<u>Letter #</u>	<u>Agency</u>	<u>Date</u>
1, 17	Lahontan Regional Water Quality Control Board	August 8, 1992
2	State Water Resources Control Board - Division of Water Rights	August 12, 1992
3	U.S. Forest Service	August 17, 1992
4	Southern California Association of Governments	August 20, 1992
5	Caltrans - District 8	August 25, 1992
6	Santa Ana Regional Water Quality Control Board	August 27, 1992
7	State Water Resources Control Board - Division of Clean Water Programs	August 28, 1992
8	Sierra Club	August 29, 1992
9	State Office of Historic Preservation	August 31, 1992
10	Federal Center for Disease Control	August 31, 1992
11	Environmental Protection Agency	September 8, 1992
12	South Coast Air Quality Management District	September 8, 1992
13	State Office of Planning and Research	September 8, 1992
14	Department of Interior	September 4, 1992
15	Federal Aviation Administration	September 14, 1992
16	San Bernardino Valley Water Conservation District	September 15, 1992



The comments and responses to comments can be found in Section 3 of this document. A number of issues were raised which were not specifically addressed in the Draft EIR/EIS. The following section presents detailed analyses of these issues.

## **2.2                    SUBSTANTIVE NEW ISSUES RAISED**

A number of written comments to the Draft EIR/EIS raised issues related to the project that had not been specifically addressed in that document. These include:

- Address air quality impacts
- Report on the results of the spring biological survey
- Discuss the designated beneficial uses of the affected streams
- Fully examine all water quality issues listed in Section 1.3 - Environmental Issues of the Draft EIR/EIS. As a result, an analysis of the water quality impacts of snow additives, Snomax, in this case, is presented.
- Discuss uranium found in the wastewater.

These issues are analyzed in the following subsections. For each issue examined, no new, significant environmental impacts were found.

In addition several comments questioned the conclusion in the Draft EIR/EIS that a change in trophic status of the small reservoir at the ski resort from oligotrophic to eutrophic would not be significant water quality impact. This issue is reanalyzed below.

### **2.2.1                Air Quality Impacts**

The project area lies within the South Coast Air Basin and is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

The South Coast Air Basin is a 6,600-square-mile area encompassing Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. Bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east, the South Coast Air Basin is an area of high air pollution potential. The strength and location of a semipermanent, subtropical high-pressure cell over the Pacific Ocean primarily control the climate of the basin. Climate is also affected by the moderating effects of the nearby oceanic heat reservoir. Warm summers, mild winters, infrequent rainfall, moderate daytime onshore breezes, and moderate humidities characterize local climatic conditions.

Temperatures in the mountain area in the summer season average approximately 80°F during the day and 45°F at night. During the winter season, temperatures are approximately 55°F during the day and 15°F at night. Rainfall for this area follows typical Southern California rainfall patterns, with the majority of rainfall occurring October through April. Summer rainfall due to seasonal

variation in rainfall patterns (tropical storms from the south) provides the balance of rainfall events for the project area. The higher elevations (above 5,000 feet) have an average annual precipitation of greater than 30 inches.

During summer's longer daylight hours, plentiful sunshine provides the energy needed to fuel photochemical reactions between nitrogen dioxide and volatile organic compounds, which result in ozone formation. To reach high levels of ozone requires adequate sunshine, early morning stagnation in source areas, high surface temperatures, strong and low morning inversions, greatly restricted vertical mixing during the day, and daytime subsidence that strengthens the inversion layer. The most frequent ozone transport route is from source areas in coastal areas to receptor areas along the base of the San Gabriel and San Bernardino mountains. With offshore flows, ozone transport is more limited, and highest concentrations occur in the western portion of the basin.

As with ozone, a substantial fraction of suspended particulate matter (PM<sub>10</sub>) forms in the atmosphere as a result of chemical reactions. Peak concentrations of both ozone and PM<sub>10</sub> occur downwind of precursor emission sources.

Ambient air quality standards (AAQS) are the levels of air pollutant concentration considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect people most susceptible to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Collectively, these are called "sensitive receptors". National AAQS were established by the Environmental Protection Agency (EPA) in 1971 for six air pollution constituents. States have the option to add other pollutants, to require more stringent compliance, or to include different exposure periods. Standards applicable in California are shown in Table 2-1.

The study area lies within the mountainous portions of the SCAB. Temperatures in the mountains are considerably colder in the winter and cooler in the summer compared to the predominantly low-elevation area of the basin. National and state health-based standards for ozone, carbon monoxide, nitrogen dioxide, and fine particulate matter are regularly exceeded in many parts in the SCAB. However, the only known pollution problem within the project area is ozone, which is transported from urban areas to the south and west.

The nearest full-time air quality monitoring station to the project site located at Crestline, 11 miles west of Running Springs. Ozone and total suspended particulates are the only pollutants measured. Data for the Crestline Station for the last 5 years are given in Table 2-1. Peak readings of ozone are among the highest in the basin, occurring late in the afternoon on summer days when high readings have occurred elsewhere in the basin and weak winds have pushed the polluted air mass eastward, up the slope of the mountains, and eventually out of the basin. This phenomenon is called the "chimney effect" and occurs when slopes are heated by solar radiation and produce a windflow. Particulate readings at the Crestline Station are the lowest of any station within the SCAQMD monitoring network.

Table 2-1

SUMMARY OF ANNUAL AIR QUALITY DATA<sup>(a)</sup>  
CRESTLINE (LAKE GREGORY) AIR QUALITY MONITORING STATION

Pollutant	1986	1987	1988	1989	1990
<b>Ozone (O<sub>3</sub>)</b>					
State Standard (1-hr avg 0.09 ppm)					
Federal Standard (1-hr avg 0.12 ppm)					
Maximum Concentration	0.26	0.29	0.29	0.27	0.33
Number of Days State Standard Exceeded	154	156	160	172	144
Number of Days Federal Standard Exceeded	117	119	128	127	103
<b>Carbon Monoxide (CO)</b>					
State Standard (1-hr avg 20 ppm)					
Federal Standard (1-hr avg 35 ppm)					
Maximum Concentration 1-hr period (ppm)	NM	NM	NM	NM	NM
Number of Days State Standard Exceeded	NM	NM	NM	NM	NM
Number of Days Federal Standard Exceeded	NM	NM	NM	NM	NM
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>					
State Standard (1-hr avg 0.25 ppm)					
Federal Standard (0.0534 AAM in ppm)					
Maximum 1-hr Concentration	NM	NM	NM	NM	NM
Number of Days State Standard Exceeded	NM	NM	NM	NM	NM
% Federal Standard Exceeded	NM	NM	NM	NM	NM
<b>Total Suspended Particulates (TSP)<sup>(b)</sup></b>					
State Standard (24-hr avg 150 ug/m <sup>3</sup> )					
Federal Standard (24-hr avg 260 ug/m <sup>3</sup> )					
Maximum 24-hr Concentration	122	218	108	160	124
% Samples State 24-hr Standard Exceeded	0	0	0	0	0
% Samples Federal 24-hr Standard Exceeded	0	2	0	2	0
<b>Suspended Particulates (PM10)<sup>(b)</sup></b>					
State Standard (24-hr avg 50 ug/m <sup>3</sup> )					
Federal Standard (24-hr avg 150 ug/m <sup>3</sup> )					
Maximum 24-hr Concentration	NM	NM	NM	NM	NM
% Samples Exceeding State 24-hr Standard	NM	NM	NM	NM	NM
% Samples Exceeding Federal 24-hr Standard	NM	NM	NM	NM	NM

Notes: AAM = annual arithmetic mean  
 NM = not monitored  
 ppm = parts per million  
 ug/m<sup>3</sup> = micrograms per cubic meter

<sup>(a)</sup> Pollutants shown are those for which the South Coast Air Basin is designated as a federal non-attainment area. State and federal standards for both lead and sulfur dioxide have been met everywhere in the basin for the past 5 years.

<sup>(b)</sup> The state TSP standard was superseded by the State PM10 standard in 1986 and the federal TSP standard was superseded by the federal PM10 standard in 1987.

Source: South Coast Air Quality Management District Summary of Air Quality, Diamond Bar, California, 1991.



Since the project site in Running Springs is 1,500 feet higher than Crestline, the air quality is generally better. From 1972 through 1978 the San Bernardino Air Pollution Control District and its successor, the SCAQMD, maintained a monitoring station in Big Bear, which is about the same elevation as Running Springs, although further east. The SCAQMD conducted additional ozone readings, which were approximately twice the federal standard, but significantly lower than those in Crestline.

The project would result in several types of air emissions. These can be divided into (1) engine emissions from construction equipment, (2) dust emissions from earth movement, and (3) emissions due to project operation. Air emissions were calculated using procedures spelled out in Appendix 9 of the SCAQMD CEQA Air Quality Handbook (9/92).

Project construction would consist of two parts:

1. Treatment plant site  
Construction equipment: one tractor backhoe and one wheeled loader
2. Pipeline  
Construction equipment: one tractor backhoe and two wheeled loaders

Construction of the treatment plant upgrades and the pipeline would proceed simultaneously. Diesel-fueled equipment would be used and it is assumed that the equipment would be operated for eight hours per day.

The construction equipment emissions for CO (carbon monoxide), ROG (reactive organic gases), NOx (oxides of nitrogen), SOx (oxides of sulphur) and PM10 (particulates less than 10 microns) are shown in Table 2-2. The Air Quality Handbook contains suggested threshold emission numbers beyond which a significant air quality impact would be determined. These range from 75 pounds per day for ROG to 550 pounds per day for CO. As can be seen in Table 2-2, no thresholds are exceeded.

Table 2-2  
EMISSIONS ASSOCIATED WITH CONSTRUCTION EQUIPMENT  
Daily Emissions (lbs/day)

	CO	ROG	NOx	SOx	PM10
1 Tractor Backhoe <sup>(1)</sup>	5.4	1.2	13.6	1.1	1.1
1 Wheeled Loader <sup>(1)</sup>	4.6	1.8	15.2	1.5	1.4
2 Tractor Backhoes	10.8	2.4	27.2	2.2	2.2
3 Wheeled Loaders	13.8	5.4	45.6	4.5	4.2
TOTAL (lines 3&4)	24.6	7.8	72.8	6.7	6.4
Significance Thresholds	550	75	100	150	150
Note: <sup>(1)</sup> Taken from Table 9-8-A of Appendix 9 - SCAQMD Handbook 9/92. The "Miscellaneous" line was used for the tractor backhoe emissions.					



PM10 emissions from grading at the treatment plant site were estimated using the following equation (Table 9-9-F of the Air Quality Handbook):

$$E = 0.45 \times (G^{1.5}/H^{1.4}) \times 2.2046 \times \text{hours/day bulldozing}$$

where,

$E$  = PM10 emissions in pounds/day

$G$  = percent site content

$H$  = soil moisture in percent

A silt content for overburden (7.5 percent) was used. For a moisture content of 2 percent (dry conditions) and 8 hours per day of bulldozing, about 62 pounds of PM10 would be generated. When combined with the 6.4 pounds per day of equipment emissions from Table 2-2, the total construction-related PM10 emissions would be 66 pounds per day, well below the 150 pounds per day threshold. In contrast, if the site was water several times per day, creating moist soil conditions ( $H = 15$  percent), only 4 pounds per day of PM10 would be generated due to bulldozing at the treatment plant site. This would reduce total PM10 emissions to about 10 pounds per day.

There would be no hauling of fill and thus only minimal truck emissions.

During project operation there would be no direct emissions of the criteria pollutants. The tertiary treatment process and the pump stations along the reclaimed water pipeline would be electrically run. No standby emergency power generation equipment would be installed. The only emissions associated with project operation would be from the regional power generation grid. The great majority of the power requirement would be used by the pumped need to move the reclaimed water through nine mile of pipe and 2,190 vertical feet of elevation. Power requirements would be approximately 3,900 kilowatt-hours per acre-ft delivered to the reservoir at Snow Valley Ski Resort. After the turn of the century a maximum of up to 1 MGD (3.07 acre-ft per day) could be pumped. This corresponds to 12 megawatt-hours per day. Table 2-3 shows the electrical generating emissions associated with this level of power consumption. The emissions are all well under the significance thresholds.

Table 2-3

EMISSIONS RESULTING FROM PROJECT OPERATION  
(Pounds Per Day Unless Otherwise Noted)

	CO	ROG	NOx	SOx	PM10
Pounds Per MWH <sup>(1)</sup>	0.3	0.01	1.15	0.12	0.04
Pounds Per 12.0 MWH	2.4	0.1	13.8	1.4	0.5
Significance Thresholds	550	75	100	150	150
Note: <sup>(1)</sup> Taken from Table 9-11-B, Air Quality Handbook.					

Alternatives 3 and 5 would utilize water tank trucks to transport the reclaimed water to the Snow Valley Ski Resort. The emissions resulting from truck water hauling can also be calculated. Alternative 3 would involve trucking the reclaimed water from the treatment plant to the ski resort, a round-trip distance of 18 miles. Alternative 5 would involve trucking water pumped from existing wells in the Green Valley or upper Arrowbear area, an assumed roundtrip distance of approximately 8 miles. Average water demand would require 34 truck trips while peak daily demand could require up to 250 truck trips.

Table 2-4 shows the calculated emissions related to the alternatives. All of the daily emissions for both of the alternatives are well below the significance thresholds.

Table 2-4

EMISSION ASSOCIATED WITH ALTERNATIVES 3 AND 5  
(Pounds Per Day Unless Otherwise Stated)

	Truck Mile/Day	CO	ROG	NOx	PM10
grams/mile <sup>(1)</sup>	--	18.15	2.32	6.26	0.96
Alternative 3					
Average	612	24.4	3.1	8.4	1.3
Peak	4,500	179.7	23.0	62.0	9.5
Alternative 5					
Average	272	10.9	1.4	3.7	0.6
Peak	2,000	79.9	10.2	27.5	4.2
Thresholds	--	550	75	100	150
Note: <sup>(1)</sup> Taken from Table 9-5-K-3, Air Quality Handbook.					

### 2.2.2 Summary of the Results of the Spring Biological Survey

Field surveys for sensitive plants and animals in the vicinity of the existing treatment plant facility and the proposed pipeline corridor were conducted in May, June and July of 1992. These surveys provide data on existing conditions along the corridor and the resultant impacts that would be associated with the proposed project. Two sensitive plant species (San Bernardino owl's clover and San Bernardino jewelflower) were observed along the pipeline route. No sensitive animal species were observed during the field surveys.

The San Bernardino owl's clover or *Orthocarpus lasiorhyncus* is a Category 2 candidate for federal listing and is a Forest Service sensitive species. This species is known from the Snow Valley Recreation Residence Tract and adjacent to the ski area parking lot. Habitat for this plant includes vernal wet areas associated with streams, swales and meadow edges. It may also occur in association with pebble plains.



The San Bernardino owl's clover was observed in bloom along the pipeline route in May and June of 1992. It was found in various swales surrounding the Deer Lick Forest Station as well as in swales on both sides of Keller Peak Road adjacent to Highway 18. A total of approximately 2,000 plants were observed in the vicinity of the station with the majority west and north of the station. Another 50 owl's clover plants were observed along the banks of the eastern fork of a seasonal stream on the north side of the existing jeep trail 300 meters northeast of the junction of the jeep trail with Keller Peak Road.

The other sensitive plant species that was observed along the pipeline corridor was the San Bernardino jewelflower or Streptanthus bernardinus. This plant is a Forest Service sensitive species which occurs in the understory of open areas in yellow pine forest and may also respond to infrequent disturbance.

The San Bernardino jewelflower was observed in bloom in several locations from Keller Peak Road approximately 300 meters south of Highway 18 to the reservoir at Snow Valley. The plant was observed in an opening in the yellow pine forest, and also on cut banks near Keller Peak Road, the existing jeep trail and the service road leading to the reservoir at Snow Valley. The plant was also observed along the banks of the reservoir.

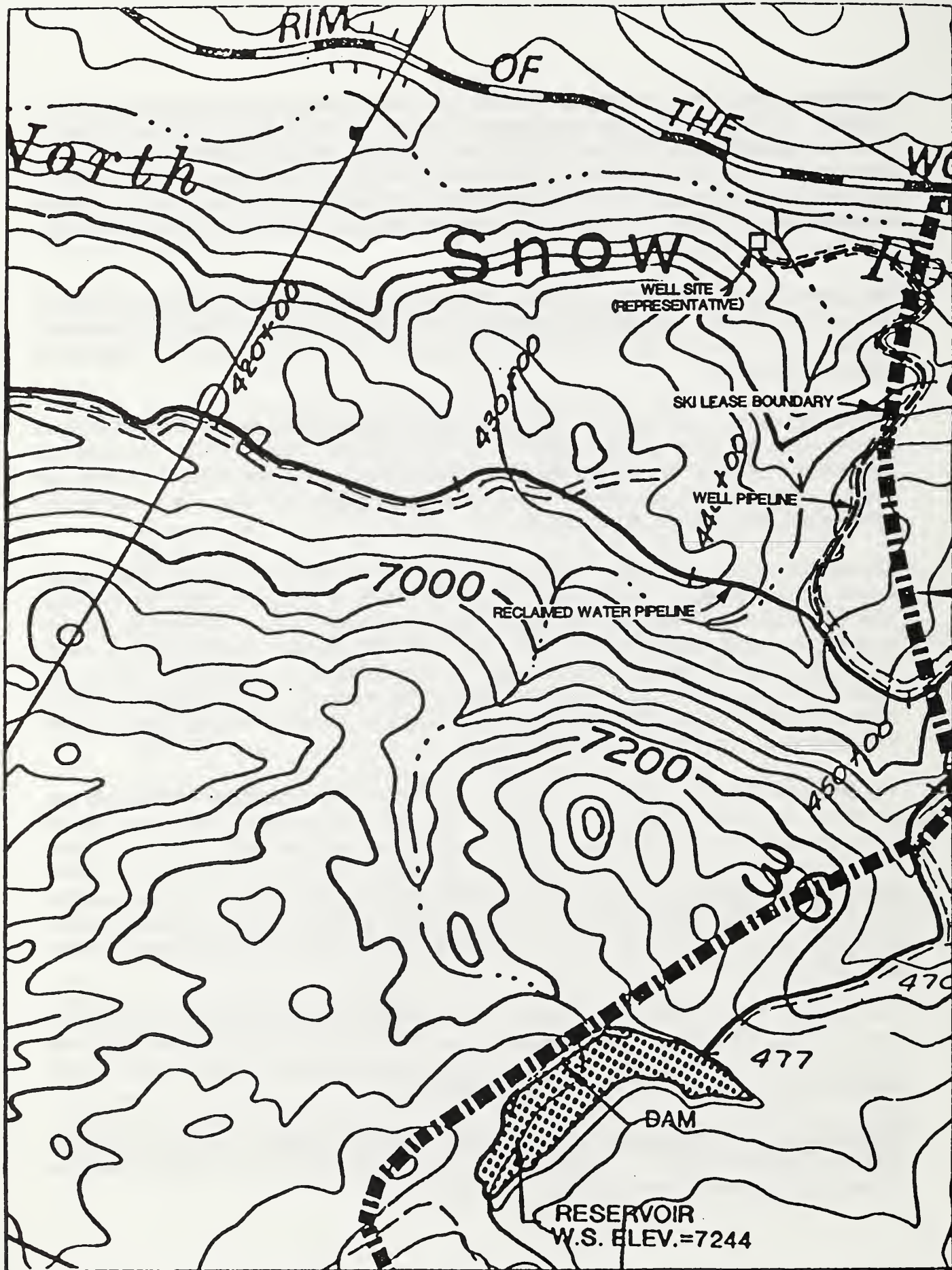
The San Bernardino jewelflower and San Bernardino owl's clover are likely to be most impacted by the proposed project. In addition, the Lemon lily (another sensitive species) has also been observed in some of the riparian scrub areas along the pipeline corridor. Construction activities in those areas which support sensitive plants could cause the destruction of individual plants which are located in the construction corridor or immediately adjacent to the construction corridor. To avoid this, sensitive plant locations will be flagged. The relatively narrow pipeline disturbance width, 25 feet, will allow for avoidance of sensitive locations. Construction in the vicinity of such locations will be monitored by a biological monitor.

The field surveys conducted for this project also covered a possible municipal well location near the North Fork of Deep Creek (just downstream from the ski resort) and the associated pipeline route running south to join with the reclaimed waterline route (Alternative 2 as shown in Figure 2-1). Forest Service records identify both San Bernardino owl's clover and ashy gray indian paintbrush (Castilleja cinerea), a category 2 candidate species for federal listing, upstream from this site, along the North Fork in the vicinity of the ski resort parking lot. However, no sensitive plants or animals were observed in the areas which might be disturbed by well location and pipeline associated with Alternative 2.

The Draft EIR/EIS identifies ten bird species, three mammal species and six reptile and amphibian species which are either uncommon to the area or formally listed by a state or federal agency and are referred to as sensitive species (see Section 3.4.3.2). Eight additional sensitive wildlife species also may occur in the project area as summarized below.

Golden eagle: The golden eagle is listed as a California Species of Special Concern and frequently inhabits mountainous terrain. A golden eagle was observed soaring over the eastern terminus of the proposed pipeline corridor during the 1992 field surveys.





APPROXIMATE LOCATION OF MUNICIPAL WELL SITE  
FOR ALTERNATIVE 2

FIGURE 2-1

Sharped-shinned hawk: This species is listed as a California Species of Special Concern and by the Forest Service as a Sensitive Species. This species requires thick stands of single-layered tree canopies adjacent to clearings for nesting. Much of the proposed pipeline corridor passes through areas where this species may occur.

Mountain quail: Mountain quail (*Oerortyx pictus*) is listed as Forest Service Emphasis Species and Federal Candidate Category 2. This species occurs in chaparral, brushy ravines, and mountain slopes up to 10,000 feet elevation.

Spotted bat: The spotted bat is a Federal Candidate (Category 2) and a California Species of Special Concern. This species, which is one of the rarest North American bats, lives primarily in crevices in rocky cliffs and canyons and may occur in a variety of habitats.

White-eared pocket mouse: This species is listed as a California Species of Special Concern, Federal Candidate (Category 2), and a Forest Service sensitive species. The only known location is in the western portion of the San Bernardino Mountains in the vicinity of Strawberry Peak. The species habitat has been described as the "dry floor of pine forest where bracken fern grows." The species is unlikely to occur along the pipeline corridor. The greatest potential for the species is approximately 6 to 8 miles west of the pipeline corridor.

Coast horned lizard: This species is a California Species of Special Concern and Federal Candidate (Category 2). The species does occur up to an elevation of 6,000 feet. The horned lizard occurs in sandy areas, washes, and floodplains.

## Fish

Arroyo chub (*Gila orcutti*): This species is listed as a Species of Special Concern by the California Department of Fish and Game. The species is native to the Los Angeles, San Gabriel, San Luis Rey, Santa Ana, and Santa Margarita rivers, and in Malibu and San Juan creeks. Native populations occur in Fredalba Creek and the species has been introduced into the Mojave River and Deep Creek systems.

Mohave tui chub (*Gila bicolor mohavensis*): This species is listed by California Fish and Game and the U.S. Fish and Wildlife Services as an endangered species. The species was previously distributed throughout the Mohave River drainage. Its current distribution is restricted, with known populations located at Fish and Game's Camp Cady Wildlife Area, China Lake Naval Weapons Center, and at two locations on land managed by the Bureau of Land Management.

A number of sensitive wildlife species were observed in the vicinity of the pipeline corridor during the field surveys. These sensitive species include: Cooper's Hawk, Lewis' Woodpecker, Yellow Warbler, Wilson's Warbler, Northern Goshawk and Golden eagle.

Construction activities are likely to cause temporary displacement of the six sensitive bird species. However, all of the species are expected to return to the area once construction activities are completed. More serious impacts could occur if sensitive bird species are nesting in the vicinity of construction activities during the nesting season (March 15 to July 15). To avoid impacts to



sensitive nesting species, a survey will be conducted for nesting raptors and sensitive tree cavity nesters shortly before the start of construction. If sensitive nesting species are encountered, construction activities in the vicinity will be restricted until the young have learned to fly (i.e., fledged). Specific details of this mitigation can be found in the mitigations (Section 4).

In addition to the above mitigation and the mitigation measures contained in the Draft EIR/EIS for the project, three additional mitigations are recommended in order to protect sensitive plant and animal species. These measures include: (1) a prohibition against the removal of trees or other vegetation along the channel leading into the reservoir (if the option of feeding reclaimed water into a drainage immediately above the reservoir is taken); (2) if any sensitive animal species are trapped in open pipeline trenches they must be removed and placed at least 100 feet from the construction corridor; and (3) steps should be taken to avoid swales in the vicinity of the Running Springs Elementary School and the Deer Lick Forest Station in order to avoid destruction of owl's clover plants. These measures have been incorporated into the mitigations related to pipeline construction.

### 2.2.3 Designated Beneficial Uses of Streams

The state has designated beneficial uses for Deep Creek and for Plunge Creek, the stream to which Fredalba Creek is tributary. The 1983 Water Quality Control Plan for the Santa Ana Basin (Regional Water Quality Control Board 1984, amended 1989) designates the beneficial uses for Plunge Creek. The Water Quality Control Plan for the South Lahontan Basin (Regional Water Quality Control Board 1987) designates the beneficial uses for Deep Creek. These designated uses are listed in Table 2-5.

Table 2-5

DESIGNATED BENEFICIAL USES OF THE STREAMS

	Plunge Creek	Deep Creek
Municipal	X	
Agricultural	X	X
Groundwater Recharge	X	X
Water Contact Recreation (swimming, fishing)	X	X
Non-Contact Water Recreation (picnicking, camping, aesthetics)	X	X
Coldwater Fishery	X	X
Wildlife Habitat	X	X

Both Plunge and Deep Creeks are designated for agricultural uses and groundwater recharge. Plunge Creek is designated for municipal water supply. The two creeks support both contact and



non-contact water recreation. Coldwater fishery and wildlife habitat are also designated uses of the two creeks.

The data presented in this section indicate that the quality of the upper portion of Deep Creek is generally adequate to support the beneficial uses for that stream. Equivalent recent water quality data for Plunge Creek do not exist. However a 1989 Basin Water Quality Assessment, prepared by the Santa Ana Regional Water Quality Control Board, rated the water quality condition of Plunge Creek as Good, the highest rating.

### References

#### Regional Water Quality Control Board

1984 Water Quality Plan for the Santa Ana Basin, Riverside, California.

1987 Water Quality Plan for the South Lahontan Basin, Victorville, California.

### **2.2.4 Water Quality Impacts of Snow-Making Additives**

Additives are commonly mixed with the water used to make snow which enhance artificial snow formation at otherwise marginally high temperatures. One of the most commonly marketed snow additives is Snomax and it has been utilized in the past by Snow Valley Ski Resort. Snomax is made from cultures of *Pseudomonas syringae*, a common soil bacteria found throughout the United States, Canada and elsewhere. This bacteria is harmless to man and to animals. The cultures are processed into a dry, pellet form. These pellets are redissolved in water and the mixture is metered into the water spray lines at ski resorts.

A number of scientific tests have been carried out to determine if use of Snomax promotes buildup of the bacteria in soil or in streams draining areas where the product is used (Wallis, Buchanan-Mappin and Corbin 1989; Goodnow et al. 1990). The results indicate relatively low levels of the viable bacteria can be found in areas where Snomax has been used. No buildup of the bacteria has been documented in soils. In streams monitored for the organism, a steady decline in numbers of the organism has been documented, which becomes more pronounced as stream temperature rises toward 15 degrees Centigrade. The half-life of the organism in water has been calculated to range from 12 days at 0 degrees to 3 days at 15 degrees (Harrison 1988).

No substantial water quality impact resulting from use of Snomax has been documented.

### References

Goodnow, R.A., M.D. Harrison, J.D. Morris, K.B. Sweeting and R.J. Laduca

1990 Fate of Ice Nucleation-Active *Pseudomonas syringae* Strains in Alpine Soils and Waters and in Synthetic Snow Samples, Applied and Environmental Microbiology 56:7, pp. 2223-2227, July 1990.

Harrison, M.D.

- 1988     Evaluation of the Pathogenic and Ecological Characteristics of Pseudomonas syringae Strain 31A, Department of Plant Pathology, Colorado State University, Fort Collins, Colorado.

Wallis, P.M., J.M. Buchanan-Mappin and J Corbin

- 1989     Effects of Using Ice Nucleating Bacteria (Snomax) on Snow, Vegetation and Soil at Mt. Louis, Ontario, Canada, Hyperion Research Limited, Exshaw, Alberta, Canada.

## **2.2.5            Uranium in the Wastewater**

Two ion exchange water treatment units discharge into the District's sewer system. These units are used to remove naturally-occurring uranium from public water systems.

For three years, the District has been conducting quarterly monitoring of the wastewater effluent and sludge for uranium radioactivity. Values for the effluent have ranged from 0 to 30 picocuries per liter (pCi/l). The sludge values have ranged from 3 to 550 pCi/gram. The only regulations affecting this material are Federal Department of Transportation Regulations stating that materials greater than 2,000 pCi/gram are radioactive materials and are subject to special transport requirements. The District sludge is far below this level.

The Maximum Contaminant Level for uranium set by Title 22 is 20 pCi/l. The effluent has exceeded this on one occasion (30 pCi/l). Tertiary filtration is expected to keep levels below 20 pCi/l. Uranium in the District's effluent and sludge does not at present violate any health or water quality restrictions. The District will monitor State Department of Health Services requirements for uranium in reclaimed and/or domestic water and will assure that its operations meet future regulations.

## **2.2.6            The Change in Trophic Status of the Ski Resort Reservoir**

A five-acre reservoir was constructed at the ski resort for the express purposes of sediment control and storing water for the snow-making system. Although no water quality data for this reservoir exists, the good water clarity and the lack of attached algae (also known as periphyton) growing on submerged rocks, suggests that the lake has low productivity and is oligotrophic. Section 4.3.1 of the Draft EIR/EIS states that the nutrient-rich reclaimed water which would be delivered to the reservoir for storage under the Preferred Alternative would greatly boost algal productivity and shift the trophic status of the reservoir to eutrophic.

Access to the reservoir is restricted by the ski resort and its only other use is for limited fishing with permission by the ski resort. Under the Preferred Alternative, the reservoir would remain hydrologically isolated from Deep Creek and would therefore not impact downstream water quality. For these reasons a change in the trophic status of this small, isolated reservoir is not judged to be a significant impact directly attributable to the project.

However, cumulative recreational development planned for the area could result in an impact to aesthetics. A program being pursued by the Forest Service would link the reservoir to the nearby

Children's National Forest. A wheelchair-accessible trail would be constructed, allowing the public to hike the short distance from the Children's National Forest parking lot to the reservoir. Fishing and swimming would be permitted.

It should be noted that the reclaimed water delivered to the reservoir is of a sufficient quality to allow swimming under Title 22 wastewater treatment requirements. In addition, an aerator would be operated to maintain adequate dissolved oxygen levels in the reservoir. This would also allow for continued trout stocking. Indeed, the more productive trophic status of the reservoir would probably promote increased fish production. On the negative side, unionized ammonia concentration might rise to toxic levels, requiring pH control in the reservoir (refer to Response 17-2 in Section 3).

The water clarity would be considerably less than under current conditions. In the summer, the lake would assume a somewhat turbid, possibly green-colored character due to increased algal production. This would reduce the aesthetic appeal of the reservoir. Under these conditions, with future public access to the reservoir, the project could have a significant cumulative impact on aesthetics.



### **3. COMMENT LETTERS AND RESPONSES**

Running Springs Water District and Forest Service received 71 comments from 16 agencies in response to the circulation of the Draft EIR/EIS for the Running Springs Advanced Wastewater Treatment and Reclamation Project.

Each comment letters has been assigned a number (1, 2, etc.) and issues raised within each comment letter are number sequentially to permit referencing to the appropriate response (1-1, 1-2, etc.). This section contains first all the comment letters followed by responses to comments.

## CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

## LAHONTAN REGION

VICTORVILLE BRANCH OFFICE  
15428 CIVIC DRIVE, SUITE 100  
VICTORVILLE, CA 92392-2383  
(619) 241-6583  
FAX No. (619) 241-7308



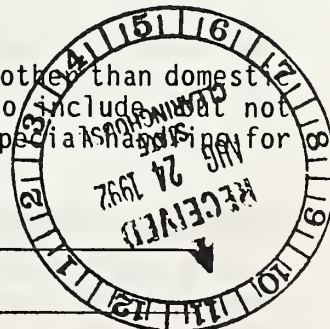
To: State Clearinghouse  
1400 Tenth Street  
Sacramento, CA 95814

09/08/92 E

RE: Running Springs Advanced Wastewater Treatment and Reclamation Project, San Bernardino County, SCH# 91102031

Please refer to the items checked for our comments on the above-referenced project.

- [ ] If the proposed project will utilize a community sewer system, we have no comments.
- [ ] Discharge of any material other than domestic wastewater to a septic tank wastewater disposal system is generally prohibited.
- [ ] The proposed project could result in development which would exceed the Regional Board's 500 gallon per acre per day limitation on the discharge to septic tank wastewater disposal systems.
- [ ] The planning agency will have to identify the septage disposal site where periodic pumpings from the project will be disposed of.
- [ ] The proposed development is in an area where septic tank wastewater disposal systems are prohibited.
- [ ] The proposed project is located in an area containing surface waters which could be impacted by the off site discharge of earthen materials and stormwater runoff.
- [ ] The proponent should contact Regional Board staff to provide additional information regarding this project.
- 1-1 [X] A Report of Waste Discharge will be requested of the proponent to evaluate the threat to water quality posed by this project.
- [ ] Please require written clearance from the Regional Board before approving this project.
- [ ] The Regional Board has determined that this project will not have a significant effect on water quality as proposed. No further Regional Board action will be taken.
- [ ] If a proposed industrial facility would generate wastes other than domestic sewage, waste discharge requirements may be imposed to include, but not limited to, industrial pretreatment of wastewater and special handling for solid waste.
- [ ] OTHER \_\_\_\_\_



Sincerely

*Ted J. Evans*  
Ted J. Evans, WRC Engineer

Date 8/19/92

**STATE WATER RESOURCES CONTROL BOARD**

THE PAUL R. BONDERSON BUILDING  
901 P STREET  
SACRAMENTO, CA 95814

Mailing Address

**DIVISION OF WATER RIGHTS**

P.O. BOX 2000, Sacramento, CA 95812-2000



916/657-1926

FAX: 916/657-2388

AUGUST 12 1992

In Reply Refer  
To:342:BHP:WW-RSWD

Running Springs Water District  
c/o Director of Utilities  
31242 Hilltop Boulevard  
Running Springs, CA 92382

9/8 (E)

Dear Director:

APPLICATION WW-RSWD FREDALBA CREEK TRIBUTARY TO PLUNGE CREEK THENCE  
SANTA ANA RIVER IN SAN BERNARDINO COUNTY (SCH# 91102031)

Thank you for the opportunity to comment on the Draft Environmental Impact Report of the Running Springs Water District's (RSWD) reclamation project. Currently RSWD operates a secondary waste water treatment plant, and discharges to a land disposal system consisting of 13 acres of percolation/evaporation ponds and a spray irrigation system covering seven acres. The proposed project would upgrade the plant from secondary to tertiary to meet the treatment requirements of Title 22 of the California Code of Regulations for irrigation and snow-making at the nearby ski resort.

If the above is the case, a petition would need to be filed with the State Water Resources Control Board as required by Water Code Section 1211. Water Code Section 1211 in part reads as follows:

2-1 | "Prior to making any change in the point of discharge, place of use, or purpose of use of treated waste water, the owner of any waste water treatment plant shall obtain approval of the board for any such change."

For your convenience I have enclosed herein a petition form for change involving treated waste water (Form WR22WW), please note the required fees at the bottom of Page 1.

If you have any questions concerning this matter please contact me at the phone number listed above. Questions related to the "PETITION FOR CHANGE, ENVIRONMENTAL INFORMATION" form (WR 1-4), or the information requested therein, should be addressed to Mr. Mike Falkenstein at (916) 657-1377.

Sincerely,

**ORIGINAL SIGNED BY:**

Bert H. Parkinson  
Associate WRC Engineer  
Petition Unit

Enclosure





cc: Department of Fish and Game  
c/o Ms. Patricia Kessler  
1416 Ninth Street  
Sacramento, CA 95814  
A-43

Office of Planning and Research  
1400 Tenth Street  
Sacramento, CA 95814  
A-8

USDA Forest Service  
1824 South Commercenter Center  
San Bernardino, CA 92408-3420

Arrowhead Ranger District  
P.O. Box 7  
Rim Forest, CA 92378

UNITED STATES  
DEPARTMENT OF  
AGRICULTURE

FOREST  
SERVICE

SO

Reply To: 7470

August 17, 1992

Subject: Use of Reclaimed Water for Snow Valley Ski Resort

To: Arrowhead District Ranger

We are in receipt of the Draft Environmental Impact Report/Statement for the Running Springs Advanced Wastewater Treatment and Reclamation Project. We have reviewed this report and are concerned with: (1) the erosion potential that exists should a rupture of the pipeline transporting the reclaimed water occur and (2) the route that will be used to transport the reclaimed water to Snow Valley Ski Resort if the tanker truck option is selected.

3-1 | A portion of the 8.5 mile pipeline that is to transport the reclaimed water to the Snow Valley Ski Resort is routed through National Forest land. In the event of a rupture in the pipeline, hundreds of thousands of gallons of water would be released onto National Forest land. We feel strongly that consideration should be given to responding to a break in the pipeline to ensure that erosion is kept to a minimum. A plan should be developed that details how an event of this nature would be responded to in an effort to minimize damage.

3-2 | The route that was chosen to truck reclaimed water to the ski resort is very congested. This is true not only of ski season but at other times of the year. Plans should be developed to minimize the impact to the roads and the communities located along the tanker truck route.

If you have any further questions, please contact me at (714) 383-5598.

*for Belinda D Walker*  
MICHAEL R. FLOREY  
Forest Engineer

cc: Hal Seyden



818 West Seventh Street, 12th Floor • Los Angeles, California 90017-3435 ☐ (213) 236-1800 • FAX (213) 236-1825

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**Fred Aguilar, Mayor**  
Chino

**Richard Kelly, Mayor**  
Palm Desert

**ALTERNATES**

Imperial County o **Sam Sharp, Supervisor** • Los Angeles County o **Ed Edelman, Supervisor** and **Kenneth Hahn, Supervisor** • Orange County o **Gaddi Vasquez, Supervisor** • River-  
side County o **Melba Dunlap, Supervisor** • San Bernardino County o **Larry Walker, Supervisor** • Ventura County o **Vicky Howard, Supervisor** • Cities of Imperial County o **Victor**  
**Sanchez, Jr., Mayor Pro Tem**, Westmorland • Cities of Los Angeles County o **Abbe Land, Councilmember**, West Hollywood • Cities of Orange County o **Ruthelyn Plummer, Council-**  
**member**, Newport Beach • Cities of Riverside County o (Vacant) • Cities of San Bernardino County o **Elmer Digneo, Mayor Pro Tem**, Loma Linda • Cities of Ventura County o **Judy**  
**Mikels, Councilmember**, Simi Valley • City of Los Angeles o **Richard Alatorre, Councilmember** o **Rita Walters, Councilmember** o **Michael Woo, Councilmember** • Long Beach 2nd po-  
sition o **Douglas Drummond, Councilmember** • At Large o **George Nakano, Councilmember**, Torrance o **Candace Haggard, Councilmember**, San Clemente o **Judy Wright,**  
**Councilmember**, Claremont • Ex-Officio o **Judith Johnston-Watson**, Los Angeles; **Chair, Regional Advisory Council**

August 20, 1992

Mr. Gene Zimmerman, Forest Supervisor  
San Bernardino National Forest  
USDA Forest Service  
1824 South Commercecenter Circle  
San Bernardino, CA 92408-3430

RE: **Draft EIR/EIS for the Running Springs Advanced Wastewater Treatment and  
Reclamation Project - SCAG No. SB-55924-EDR**

Dear Mr. Zimmerman:

Thank you for submitting the Draft EIR/EIS for the Running Springs Advanced Wastewater Treatment and Reclamation Project to SCAG for review and comment. As areawide clearinghouse for regionally significant projects, SCAG assists cities, counties, and other agencies to review projects and plans for consistency with the Regional Housing Needs Assessment (RHNA), Regional Mobility (RMP), Growth Management (GMP), and Air Quality Management (AQMP) Plans, all of which are included in the State Implementation Plan.

These comments on the environmental documents are meant to provide guidance for considering the proposed project within the context of our regional goals and policies which are based in part upon state and federal mandates. While neither the project sponsor nor the lead agency is required to undertake the specific actions recommended by SCAG or other agencies through the Intergovernmental Review Process, there are requirements in state and federal laws for consistency with regional goals and plans.

If you have any questions about the attached comments, please contact Glenn Blossom (213) 236-1876.

Sincerely,

*Eric Roth*

ERIC ROTH  
Intergovernmental Review Principal  
ER:GB



## **COMMENTS ON RUNNING SPRINGS ADVANCED WASTEWATER TREATMENT AND RECLAMATION PROJECT DRAFT EIR/EIS**

### **PROJECT DESCRIPTION**

The Draft EIR/EIS examines seven alternatives, including a preferred alternative with two variations. The current wastewater treatment plant provides secondary treatment and has a capacity of one million gallons per day (MGD). Average flows at the plant are 0.6 MGD. The Preferred Alternative would retain the existing treatment capacity of one MGD, but would upgrade the treatment facility and utilize the reclaimed water at a ski resort. The water would be used to operate snow-making equipment in winter months and for irrigation of grass slopes in the summer.

### **REGIONAL PLAN POLICIES**

There are a number of policies expressed in the Growth Management Plan which are particularly relevant to this project. Among them are policies which would support a water policy for Southern California which calls for:

- the provision of a dependable and reliable supply of water
- preservation of the quality and integrity of surface and groundwater resources
- a commitment to water conservation, and
- accomplishment of water supply and quality improvements in a cost effective manner

### **GROWTH MANAGEMENT PLAN ENVIRONMENTAL IMPACT REPORT FINDINGS**

The Environmental Impact Report which was prepared in 1989 by SCAG in conjunction with the Growth Management Plan also contains information which is pertinent to this project.

On the subject of water supply, the GMP/EIR projected a regional water supply shortfall of approximately 1.2 million acre-feet (MAF) (12.6 percent shortfall) in 2010, of which 0.8 MAF would occur in the coastal plain subregion and 0.4 MAF in the outlying subregion.

To mitigate this shortfall, the GMP proposes that MWD and other water providers in the region should increase dependable annual supplies at a regional level by 2010 to approximately 9.5 MAF and make the fullest use of existing resources by implementing the following measures as needed:

- o Increase State Water Project (SWP) yields through implementation of a Coordinated Operation Agreement between the State and U. S. Bureau of Reclamation; completion of various Delta facility capacity improvements, offstream storage programs, Central Valley Project and other SWP programs; and improvements of water transfer agreements;
- o Obtain maximum use of Colorado River supplies;
- o Store up to 3.0 MAF of surplus water in underground basins;
- o Make optimum use of existing resources and minimize adverse effects of supply shortfalls by local wastewater reclamation, groundwater protection, groundwater treatment, water conservation, surface water storage, and drought contingency planning projects.

#### PROJECT CONFORMANCE TO REGIONAL PLANS

4-1 | Our analysis of the relation of the project to the applicable regional plans leads us to the conclusion that the Running Springs Advanced Wastewater Treatment and Reclamation Project appears to be consistent with the policies and water supply recommendations of the GMP.

4-2 | It is recommended that the U.S. Department of Agriculture, Forest Service also pursue all other feasible programs to augment a dependable supply of water within the service area. This would include groundwater protection, groundwater treatment, water conservation, and drought contingency planning projects.

## Memorandum

To : State Clearinghouse  
Office of Planning & Research  
1400 10th Street  
Sacramento, CA 95814

Date : August 25, 1992

File No.: 08-SBd-18-32.5

Attention: Russ Colliau

SCH# 91102031

From : DEPARTMENT OF TRANSPORTATION  
District 8

Subject: Advanced Wastewater Treatment  
and Reclamation Project  
Draft Environmental Impact Report/  
Environmental Impact Statement

We have reviewed the above-referenced document and request consideration of the following comment:

- 5-1
- All work within the State highway right of way will require an encroachment permit. This includes construction work for the installation of the pipeline which parallels State Route 18. The Department of Transportation would be a responsible agency and may require certain measures be provided as a condition of permit issuance. All matters relating to the Encroachment Permit process, which include access, grading, and drainage issues, should be sent to:

Mr. Nelson Manlolo  
Development Review  
California Department of Transportation  
P.O. Box 231  
San Bernardino, CA 92402

If you have any questions, please contact La Keda Johnson at (714) 383-5929 or FAX (714) 383-5936.



HARVEY J. SAWYER, Chief  
Transportation Planning  
San Bernardino Coordination  
Branch



bcc: La Keda Johnson, Plan Coord Unit, DOTP  
Nelson Manlolo, Dev. Review



## CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

## SANTA ANA REGION

2010 IOWA AVENUE, SUITE 100

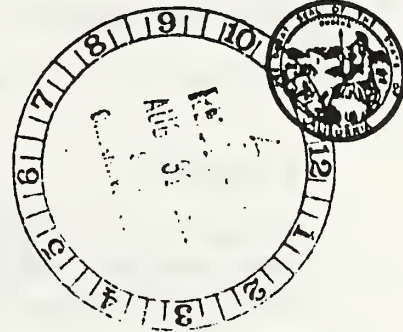
RIVERSIDE, CA 92507-2409

PHONE: (714) 782-4130

FAX: (714) 781-6288

August 27, 1992

9-086



Mr. Jim Towns  
Running Springs Water District  
31242 Hilltop Blvd.  
Running Springs, CA 92382

DRAFT ENVIRONMENTAL IMPACT REPORT/STATEMENT (DEIR/S) FOR RUNNING SPRINGS ADVANCED WASTEWATER TREATMENT AND RECLAMATION PROJECT, SAN BERNARDINO COUNTY, SCH # 91102031

Dear Mr. Towns:

We have reviewed the Draft Environmental Report/Statement for the above-referenced project. In addition to the statutory concerns of this office, the Final Environmental Impact Report (FEIR) should address the following:

- 6-1 | 1. Compliance with the Title 22, California Code of Regulations, and Department of the California State Department of Health Services requirements for snow making with reclaimed water.
- 6-2 | 2. Disposal of sludge and/or water contaminated with uranium.
- 6-3 | 3. Revision of Waste Discharge Requirements (WDRs) for the proposed expansion of your facility including producer/user reclamation requirements.
- 6-4 | 4. The 7 drainages potentially crossed, altered, impacted by the pipeline constructed from the STP to the reservoir, and any other structures redirecting runoff from the reclaimed water snowmelt may require water quality certification under Section 401 of the Clean Water Act from this office.
- 6-5 | 5. In addition, a National Pollutant Discharge Elimination System (NPDES) permit, for discharges to surface water bodies or Waste Discharge Requirements (WDR) for any discharge of wastes to land will be required from this Regional Board. These discharges of wastes can be those associated with, but not limited to, dewatering during construction, dredging activities, or stormwater runoff from industrial areas, construction sites and/or facilities which use hazardous materials. Also, the new stormwater regulations published by EPA on November 16, 1990 in the Federal Register (40 CFR Parts 122, 123 and 124) require an NPDES permit for runoff from construction sites of five acres or more from October 1, 1992. Please note that the time frame for the issuance of a permit can be as long as 180 days from the time the permit application is accepted as complete.

Mr. Jim Towns

- 2 -

August 27, 1992

We look forward to reviewing the EIR/EIS when it becomes available.

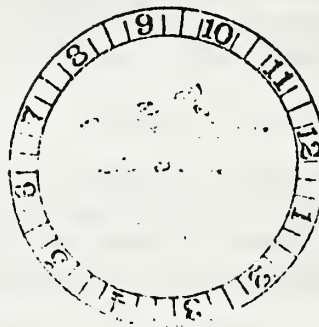
Sincerely,



Anne Knight, Environmental Specialist III  
Regulations Section

cc: Russ Colliau, State Clearinghouse

AK(351)RSWD4518.DEIR



## STATE WATER RESOURCES CONTROL BOARD

DIVISION OF CLEAN WATER PROGRAMS

2014 T STREET, SUITE 130

P.O. BOX 944212

SACRAMENTO, CA 94244-2120

(916) 739-4416

(916) 739-2300 FAX



AUG 28 1992

Mr. Jim Towns  
General Manager  
Running Springs Water District  
31242 Hilltop Boulevard  
Running Springs, CA 92382

Dear Mr. Towns:

DRAFT ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT FOR RUNNING SPRINGS ADVANCED WASTEWATER TREATMENT AND RECLAMATION PROJECT, STATE REVOLVING FUND LOAN NO. C-06-4193-110 (SCH# 91102031)

7-1 We understand that the Running Springs Water District will be seeking a State Revolving Fund (SRF) loan from the State Water Resources Control Board (State Water Board). As a funding agency, the State Water Board will be a responsible agency under CEQA and will use the Final EIR/EIS when deciding whether or not to approve the loan. You will need to provide us with copies of the following as soon as possible: (1) the Final EIR/EIS with certification, (2) all comments received during the review period and your responses to those comments, (3) a mitigation implementation and monitoring plan, (4) the Notice of Determination (filed with the State Office of Planning and Research), and (5) the State Department of Fish and Game's Environmental Filing Fee receipt or exemption finding.

Following are our specific comments on the environmental document:

- 7-2 1. Although it is appropriate for the EIR/EIS to focus on the pertinent issues, the document needs to provide at least a rudimentary discussion of all elements. Existing air quality and potential impacts such as dust, odors, and vehicle emissions resulting from project construction and increased traffic need to be discussed. Existing visual quality of the project area and potential aesthetic impacts also need to be further evaluated.
- 7-3
- 7-4 2. The historic and potential beneficial uses of Fredalba and Deep Creeks should be discussed in the EIR/EIS.
- 7-5 3. Accelerated eutrophication of a 50 acre-foot oligotrophic reservoir which provides water for fish and wildlife should not be considered an insignificant impact. The fact that the lake is artificial should not have any bearing on the significance of the impact.
- 7-6 4. Results of the Spring 1992 biological survey should be included in the Final EIR/EIS.



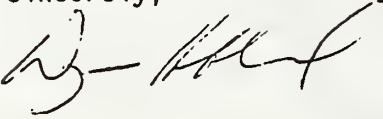
Mr. Jim Towns

-2-

AUG 28 1992

Please contact me at (916) 739-4416 if you have any questions.

Sincerely,



Wayne Hubbard  
Environmental Services Unit

cc: State Clearinghouse  
1400 Tenth Street  
Sacramento, CA 95814

Regional Water Quality Control Board  
Santa Ana Region  
2010 Iowa Avenue  
Riverside, CA 92507

Regional Water Quality Control Board  
Lahontan Region  
Victorville Branch Office  
15428 Civic Center Drive, Suite 100  
Victorville, CA 92392

Tracy Kremer  
Lands Forester  
Arrowhead Ranger District  
P. O. Box 7  
Rim Forest, CA 92378



# Sierra Club

Southern California Regional Conservation Committee

## FOREST & WILDERNESS COMMITTEE

P.O. Box 106  
Barstow, CA 92312  
August 29, 1992

Tracy Kremer, Lands Forester  
Arrowhead Ranger District  
P.O. Box 7  
Rimforest, CA 92378

Dear Tracy,

The Sierra Club would like to take this opportunity to comment upon the Draft EIR/EIS for Running Springs Water District's proposal to upgrade the level of treatment at its existing treatment plant from secondary to tertiary, and to construct a pipeline to the Snow Valley Ski Area. We understand the treated wastewater would be utilized for snow-making in the winter and for irrigation during the summer.

8-1 We don't agree with the choice of preferred alternatives. We think Alternative 4 is by and large the best alternative for all concerned including the most benefit to the Deep Creek watershed (adding a total of 88 to 185 acre-feet to the spring runoff.) While more expensive, it will save money in the long term by allowing the Running Springs groundwater basin to be recharged naturally rather than having to purchase the ever more expensive State Water Project waters. Cost of delivered treated State Water Project waters is \$855 per acre foot vs. \$450 per acre foot for locally pumped groundwater.(Section 3.3.3).

8-2 We have long been gravely concerned about Running Springs Water District's intra-basin transfer of waters from the Deep Creek drainage to the Santa Ana River drainage by the release of their sewage effluent waters into Fredalba Creek.. This transfer has caused severe damage to the wildlife and peoples who depend on the Deep Creek drainage for their sole source of water supply. It needs to be corrected immediately.

8-3 With Alternative 4, the nitrogen and phosphorus levels would be reduced to a healthy level and there wouldn't be any need to retain the runoff from the ski slopes at Snow Valley Ski Area. This is why we prefer Alternative 4 over Variation 1 of the Preferred Alternative. Water quality impacts during a drought cycle such as we are currently undergoing must not be permitted. The water quality of Deep Creek badly needs to be improved and we believe Alternative 4 will help to restore the stream's health and vigor.

8-4 We have studied the mitigations in Section 4.3.1 for the Preferred Alternative and we consider all of them to be vital to the project. We understand that all of these mitigations would also be implemented for Alternative 4. We think this is a great idea and insist that the ceasing of pumpage of water from the North Fork of Deep Creek is critical to the success of the project.


8-5 In Section 5 Cumulative Impacts, there is no mention that the North Fork of Deep Creek will be studied this coming fiscal year under the Wild and Scenic River Act for recreational river status (as recommended in the San Bernardino NF Land & Resource Management Plan of 1989, Appendix L-9).

8-5 | Alternative 4 would be of the most benefit to helping this segment and other downstream segments meet the necessary qualifications of a scenic or recreational river though there is no minimum flow requirement under the Act.

8-6 | We also like the idea of the creation of riparian habitat along the drainages that the pipeline crosses. There is critical need for such wildlife water sources in times such as these when we are undergoing the dire effects of the long drought. Water must be retained as long as possible in the mountain groundwater basins in order to be of most benefit to all.

Please keep us informed of the results of this combined EIR/EIS.

Sincerely,

  
Joyce Burk  
Chair



**OFFICE OF HISTORIC PRESERVATION**  
**DEPARTMENT OF PARKS AND RECREATION**  
P.O. BOX 942896  
SACRAMENTO 94296-0001  
(916) 653-6624  
FAX: (916) 653-9824



31 August 1992

Reply to: USFS 920727C

Tracy Kremer  
Arrowhead Ranger District  
San Bernardino National Forest  
1824 South Commercenter Circle  
SAN BERNARDINO CA 92408-3430

Subject: *RUNNING SPRINGS WATER DISTRICT PROJECT*

Dear Ms. Kremer:

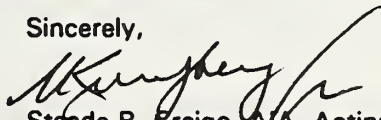
Thank you for requesting my review of the undertaking noted above and for including the documentation which justifies your determination.

9-1 I concur with your determination that there are no historic properties in the Area of Potential Effects (APE) for this undertaking. Accordingly, you have fulfilled federal agency responsibilities pursuant to 36 CFR 800, the regulations implementing Section 106 of the National Historic Preservation Act. Please note that your agency may have additional responsibilities under any of the following circumstances:

1. If any person requests that the Advisory Council on Historic Preservation review your findings in accordance with 36 CFR 800.6(e);
2. If this undertaking changes in ways that could affect historic properties [36 CFR 800.5(c)];
3. If previously undocumented properties are discovered during the implementation of this undertaking or if a known historic property will be affected in an unanticipated manner [36 CFR 800.11];
4. If a property that was to be avoided has been inadvertently or otherwise affected [36 CFR 800.4(c); 800.5];
5. If any condition of the undertaking, such as delay in implementation or implementation in phases over time, may justify reconsideration of the National Register status of properties within the undertaking's APE [36 CFR 800.4(c)].

Thank you for considering historic properties during project planning. If you have any questions, please call staff archaeologist Nicholas Del Cioppo at (916) 653-9696.

Sincerely,

  
Steade R. Craig, AIA, Acting  
State Historic Preservation Officer

Centers for Disease Control  
Atlanta GA 30333

August 31, 1992

Ms. Tracy Kremer  
Lands Forester  
Arrowhead Ranger District  
P.O. Box 7  
Rim Forest, California 92378

Dear Ms. Kremer:

We have completed our review of the Draft Environmental Impact Statement (DEIS) for the Running Springs Advanced Wastewater Treatment and Reclamation Project. We are responding on behalf of the U.S. Public Health Service.

10-1 We note that the Infectious Disease Section of the California Department of Health Services (DHS) has indicated (appendix A) that a pathogen-free effluent should be required for wastewater used to make snow. Also, DHS stated that "adequate signs should be posted indicating pictorially for English illiterates and in writing, that reclaimed wastewater is used to make snow, and that such snow is not safe to eat: (ATTENTION: THIS SNOW IS MADE FROM RECLAIMED WASTEWATER--DO NOT EAT). Additional supportive language may also be in the sign." DHS stated that similar caution signs should be used to indicate that reclaimed wastewater used for irrigation is not safe for drinking. In addition to these recommendations, we caution that the public perception of potentially increased risk of illness may be greater than what appears to be anticipated in this document.

10-2 The Final EIS should give more detail on what monitoring will be done to assure that the treated effluent does not, in fact, contain pathogenic organisms. Also, prior to a project decision, the potential impact of public perceptions to increased risks should be considered.

Thank you for the opportunity to review and comment on this draft document. Please ensure that we are included on your mailing list to receive a copy of the Final EIS, and future DEIS's which may indicate potential public health impacts and are developed under the National Environmental Policy Act (NEPA).

Sincerely yours,

Kenneth W. Holt, M.S.E.H.  
Special Programs Group (F29)  
National Center for Environmental  
Health



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, Ca. 94105-3901  
September 8, 1992

Tracy Kremer, Lands Forester  
Arrowhead Ranger District  
P.O. Box 7  
Rim Forest, CA. 92378

Dear Ms. Kremer:

The Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Report/Statement for the project entitled **Running Springs Advanced Wastewater Treatment and Reclamation Project, San Bernardino County, California**. Our review is pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508) and Section 309 of the Clean Air Act.

The Running Springs Water District proposes to upgrade their current wastewater treatment plant from secondary to tertiary treatment in order to provide a high level of disinfection to meet state requirements for unrestricted reclaimed use of the effluent. The effluent would be used for summer irrigation and winter snow-making at the nearby Snow Valley Ski Resort. An eight-mile pipeline would be constructed primarily along existing roadways to transport the effluent to an existing storage reservoir at the Ski Resort. The eastern one-half of the pipeline would cross lands under the jurisdiction of the Forest Service. In addition, the ski resort is located on National Forest System land and is authorized by a Forest Service Special Use Permit. To conform with the Lahontan Regional Water Quality Control Board policy allowing no discharges of wastewater effluent to streams, all spring runoff from slopes receiving reclaimed water would be collected and returned to the reservoir.

Six alternatives to the proposed project are evaluated. Two of these alternatives, park irrigation and incidental groundwater recharge and recovery, could be carried out in combination with the preferred alternative. Other alternatives include trucking of reclaimed water to Snow Valley, additional effluent treatment (nutrient removal) and discharge of spring runoff to the North Fork of Deep Creek, trucking water from existing wells for snow-making, and no-action.

EPA supports efforts to reclaim wastewater. We encourage its use to provide net ecological benefits for effluent-dependent streams and for ecological enhancement. This project has the potential for beneficial impacts attributable to habitat enhancement as part of the summer irrigation proposal, riparian habitat creation efforts, and elimination of direct diversions from the North Fork of Deep Creek. However, the project sponsors

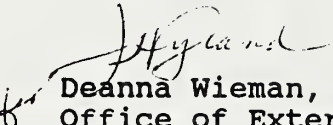


are responsible for demonstrating that wastewater can be reclaimed without damaging existing water quality and beneficial uses. In addition, the proposed action must be consistent with the applicable regulatory framework for reclamation and the Regional Water Quality Board's basin plan.

We have rated this document EC-2, "Environmental Concerns - Insufficient Information" (see attached "Summary of the EPA Rating System"). Our rating is based on the need to provide additional information on preservation or enhancement of water quality, air quality and Southern California Association of Governments (SCAG) air quality conformity, and mitigation monitoring. Our detailed comments are enclosed.

We appreciate the opportunity to review this DEIS. Please send three copies of the Final EIS to this office at the same time it is officially filed with our Washington, D.C. office. If you have any questions, please call Jacqueline Wyland, Chief, Office of Federal Activities, (415) 744-1584 or Laura Fujii, of her staff, at (415) 744-1579.

Sincerely,

  
Deanna Wieman, Director  
Office of External Affairs

Enclosure: (3 pages)

Filename: Runsprin  
92-265  
MI001193

cc: AFS, Gene Zimmerman, San Bernardino NF  
USFWS, Southern California Field Office  
RWQCB, Lahanton Region  
SCAG, Los Angeles  
AQMD, South Coast  
CDFG, Region 5  
Snow Valley Ski Resort  
Running Springs Water District, Jim Towns

## SUMMARY OF RATING DEFINITIONS AND FOLLOW-UP ACTION

### Environmental Impact of the Action

#### LO-Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

#### EC-Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

#### EO-Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

#### EU-Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of environmental quality, public health or welfare. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommend for referral to the Council on Environmental Quality (CEQ).

### Adequacy of the Impact Statement

#### Category 1-Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

#### Category 2-Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

#### Category 3-Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

\*From: EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

## COMMENTS

### **Water Quality Comments**

11-1 While EPA supports reclamation of wastewater, we remain concerned with the water quality implications of the proposed project. As described in the DEIS, the North Fork of Deep Creek has poor water quality and currently does not meet State standards (pg. 3.3-15). During below-normal rainfall years this portion of the creek ceases to flow. The addition of melted snow from reclaimed water, whether treated for nutrient removal or not, will cause continued violation of standards during average and drought years (pgs. 4.3-4, 4.3-11). Furthermore, the addition of reclaimed water to the Snow Valley storage reservoir will significantly affect water quality of this currently oligotrophic lake (pg. 4.3-3).

11-2 EPA encourages a firm commitment to the water resource (pgs. 4.3-8, 4.3-9) and wastewater treatment and reuse (pg. 4.2-4) mitigation measures. Elimination of direct pumpage from the North Fork of Deep Creek, adequate aeration and management of the reservoir, adequate monitoring of the land treatment system, and detailed aquatic biological and water quality monitoring will be critical in ensuring impacts are minimal and nonsignificant. We support the water quality monitoring program (Appendix E). The project proponents should clearly demonstrate the ability to adequately manage the reservoir to avoid potential overtopping or overflows. If such a discharge took place, it could be considered a violation of the National Pollution Discharge Elimination System (NPDES program) of the Clean Water Act which requires permits for point discharges.

11-3 The FEIS should address in greater detail the potential causes of existing poor water quality in the North Fork of Deep Creek and other water bodies which may be affected by the proposed action. Clearly address the water quality issues raised on page 1-4 and expand on the answers to these issues. We encourage a proactive approach in easing existing poor water quality conditions. We urge the project proponents to further evaluate the use of reclaimed water to provide ecological enhancement and net ecological benefits for area streams and natural resources.

### **Air Quality Comments**

11-5 The FEIS should provide a detailed discussion of air quality standards, ambient conditions, and potential air quality impacts of the project, including cumulative and indirect impacts.



11-6 Potential effects of increased and modified traffic patterns should be fully evaluated.

11-7 The Forest Service should clearly address conformity to air quality planning as described in the DEIS (pgs. 3.6-5 to 3.6-7). Although the DEIS states that conformity procedures will be applied to the project (Section 4.6), this application is not clear. Federal agencies are required by the Clean Air Act to assure that actions conform to an approved air quality implementation plan. We recommend the Forest Service and project proponents consult and coordinate with the South Coast Air Pollution Control District to ensure the proposed action conforms with existing efforts to maintain and improve air quality. If there is an approved implementation plan, conformity to this plan means:

"conformity to an implementation plan's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and achieving expeditious attainment of such standards; and

that such activities will not (i) cause or contribute to any new violation of any standard in any area; (ii) increase the frequency or severity of any existing violation of any standard in any area; or (iii) delay timely attainment of any standards or any required interim emission reductions or other milestones in any area." (Clean Air Act, Section 176(c)).

#### General Comments

11-8 1. Pg. 4.1-6. EPA recommends monitoring of revegetation efforts for three years (in contrast with the following summer only) to ensure success of mitigation.

11-9 2. Pg. 4.7-2. We suggest monitoring traffic after project implementation, preferably during a dry year, to verify the assumption that traffic congestion will not increase but will only divert traffic from the Big Bear Ski Area.

11-10 3. Pg. S-7. To alleviate public health concerns, project proponents may wish to consider a more aggressive public awareness/education program (e.g., information boards, posters, flyers, talks) on the use of reclaimed water.

11-11 4. Pg. 5-1. The DEIS indicates that a long-term development plan including an additional ski lift is being compiled for Snow Valley Ski Resort. We encourage the Forest Service to evaluate

11-11 | the effect of the proposed project on this long-term plan and  
whether increased development has been triggered by the promise  
of increased snow-making capacity.



**South Coast  
AIR QUALITY MANAGEMENT DISTRICT**

21865 E. Copley Drive, Diamond Bar, CA 91765-4182 (714) 396-2000

September 8, 1992

Ms. Tracy Kremer  
Lands Forester  
Arrowhead Ranger District  
P. O. Box 7  
Rim Forest, California 92378

Dear Ms. Kremer:

**RE: The Draft Environmental Impact Report/Environmental Impact Statement:  
Running Springs Advanced Wastewater Treatment and Reclamation Project**

**State Clearinghouse #91102031  
SCAQMD #SBC920727-01**

---

The South Coast Air Quality Management District (SCAQMD) has reviewed the Draft Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS) for the above mentioned project. The SCAQMD's review indicates that the Draft EIR/EIS lacks an analysis of air quality impacts. The SCAQMD has, therefore, taken this opportunity to identify the type of information which should be included in the air quality discussion for a project of this nature. It is our belief that this general guidance will be helpful in assisting you to prepare a meaningful air quality analysis section for the Final EIR/EIS.

- 12-1 | The air quality section should begin by identifying **baseline information** describing the existing project and air quality settings in the region and at the project site location, utilizing the most recent three years data.
- 12-2 | All **emissions sources** should be identified and quantified. Emissions of dusts, criteria pollutants and volatile organic compounds from all operations should be included. To determine the project's significance, these emissions should be compared with the SCAQMD's **thresholds of significance**, and the existing project and air quality settings.
- 12-3 | The analysis should demonstrate that the proposed project does not pose **health risks** from any of the new and/or modified processes (carbon adsorption, filtration and chemical treatments). The **health and safety risks** associated with the use, storage or transportation of chemicals, such as carbon adsorbents, ammonia, chlorine, etc. should also be assessed. The assessment should include quantification of potential **toxic air contaminants** from various operations, and wind patterns in relation to sensitive receptors. Procedures for Preparing Risk Assessments to Comply with Air Toxics Rules of the South Coast Air Quality Management District may be used for this assessment.

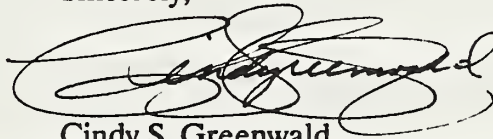


- 12-4 | Project alternatives that may attain the goals of the project with substantially fewer or less significant air quality impacts should be identified and quantified.
- 12-5 | Cumulative air quality emissions from similar and related projects should be assessed. The project's consistency with various regional plans (Air Quality Management Plan, Growth Management Plan, Regional Mobility Plan, General Plans, etc.) that address air quality issues should be demonstrated.
- 12-6 |
- 12-7 | Feasible mitigation measures necessary to reduce project specific and cumulative air quality impacts should be identified. Emission reductions should be quantified, and project significance after implementation of mitigation measures should be determined.
- 12-8 | The potential need for structure demolitions and site remediation at the plant site as well as along the pipeline's route should be addressed.
- 12-9 | The need for SCAQMD's permits should be discussed. (If the existing throughput capacity is altered, the plant may need new permits. If existing throughput capacity is not altered, the existing plant will need only modification permits.)
- 12-10 | Compliance with Assembly Bill 3205, and applicable SCAQMD rules should be included. Specifically, if applicable, compliance with SCAQMD Regulation XIII, and Rules 402, 403, 212, 1179, and 1401 should be addressed.
- 12-11 | If all volatile organic compounds and toxic contaminants cannot be removed during water treatment processes, the air quality impacts associated with the water itself should be included. The air quality impacts of use of such water is especially relevant where the water use involves wide spread spraying application, such as snow making. Air quality impacts associated with the water spraying activities should also be included. Operations of diesel- and gasoline-fueled pumps, sprayers and other pieces of equipment will emit criteria and toxic air pollutants. Whenever feasible, clean fuel-fueled pieces of equipment should be used.
- 12-12 | The proposed project's impact on visitors' traffic should be analyzed. To demonstrate carbon monoxide (CO) emissions' impact on air quality and sensitive receptors, a microscale CO analysis utilizing a computer model equivalent to CALINE 4 should be included. For background concentrations, the analysis should use the worst value from the most recent three years concentrations as measured at the selected monitoring stations.
- 12-13 | Construction related exhaust and fugitive dust emissions from work trips and non-work trips, construction activities (dirt pushing, dirt storage, travel on paved and unpaved roads, vegetation removal and transport) and equipment operations, etc. should be analyzed. To reduce impacts associated with these emissions, all feasible mitigation measures should be provided.
- 12-14 | Air quality impacts from all alternatives should be analyzed. In particular the truck emissions from proposed alternatives 3 and 5 should be quantified, and their impact on air quality analyzed.

Please keep in mind that the above is only a summarization of the air quality factors which should be included in your environmental analysis. For additional information, please refer to the SCAQMD's 1987 revision of the Air Quality Handbook For Preparing Environmental Impact Reports. To further assist you in preparing your draft air quality analysis we have attached a listing of references (Attachment I) and identified a few standard mitigation measures which should be applied as appropriate (Attachment II). The SCAQMD is in the process of revising its air quality impact handbook. If you desire, a copy of the draft document can be made available to you. The SCAQMD staff would be happy to assist you further in greater detail during the development of your air quality section.

Upon completion of your air quality impact analysis, please forward two copies of the revised Draft EIR/EIS to the SCAQMD. If you have any further questions, please contact Connie Day, Program Supervisor, at (714) 396-3055.

Sincerely,



Cindy S. Greenwald  
Planning Manager  
Planning and Technology Advancement

CSG:SG  
Attachment

## ATTACHMENT I

### LISTING OF REFERENCES TO USE

- [1] Instruction for the Emission Data System Review and Update Report, Appendix III, 1988, ARB.
- [2] Control of Open Fugitive Dust Sources, 1988, EPA.
- [3] Gap Filling PM10 Emission Factors for Selected Open Area Dust Sources, 1988, EPA.
- [4] Energy and Labor in the Construction Sector, 1978 (Science 202: 837-847), B. Hannon, R. Stein, and D. Serber.
- [5] Nonroad Engine and Vehicle Emission Study, 1991, NTIS PB92 - 126960, EPA 460/3-91-02, or EPA 21A - 2001.
- [6] Analysis of Ambient Data From Potential Toxic Hot Spots in the South Coast Air Basin, 1989, SCAQMD.
- [7] The Draft CEQA Air Quality Handbook, 1992, SCAQMD.  
(will be replacing Air Quality Handbook for Preparing Environmental Impact Reports, 1987, SCAQMD.)



## ATTACHMENT II

### STANDARD MITIGATION MEASURES FOR POTENTIAL EMISSION SOURCES

1. Minimize Particulate Emissions from Demolition/Construction Activities:
  - o Phase grading to prevent the susceptibility of large areas to erosion over extended periods of time.
  - o Require a phased schedule for construction activities to minimize daily emissions.
  - o Schedule activities to minimize the amount of exposed excavated soil during and after the end of work periods.
  - o Treat unattended (disturbed lands which have been, or are expected to be unused for four or more consecutive days) construction areas.
  - o Encourage the planting of vegetative ground cover as soon as possible on construction sites.
  - o Cover the road surface with a material of lower silt content or soil stabilizers whenever possible.
  - o Require paving, curbing, and vegetative stabilization of the unpaved areas adjacent to roadways on which vehicles could potentially drive (i.e., road shoulders).
  - o Sweep streets if silt is carried over to adjacent public thoroughfares.
  - o Install vehicle wheel-washers before the roadway entrance at construction sites.
  - o Wash off trucks leaving site.
  - o Require all trucks hauling dirt, sand, soil or other loose substances and building materials to be covered, or to maintain a minimum freeboard of two feet between the top of the load and the top of the truck bed sides.
  - o Prohibit parking on unpaved and untreated parking lots.
  - o Use vegetative stabilization, whenever possible, to control soil erosion from storm water.
  - o Require enclosures or chemical stabilization of open storage piles of sand, dirt, or other aggregate materials.
  - o Use clean and low-sulfur fuel for equipment.
  - o Control off-road vehicle travel by posting driving speed, number of wheels and vehicle weight limits on these roads.
2. Limit and Detect Emissions from the Contaminated Soil:
  - o Stop soil excavation and blending when 15-minute average speed exceeds 15 miles per hour (MPH) or instantaneous wind speed exceeds 25 MPH.
  - o Follow guidelines provided in SCAQMD Rule 11166 for the excavation of contaminated land.
3. Minimize VOC Emissions from Storage Tank, Structure and Pipeline Coatings by Requiring Proponent to Use the following:
  - o Precoated and natural white materials;
  - o Water-based or low-VOC white materials; and
  - o Low emitting spray equipment or applicators.

## GOVERNOR'S OFFICE OF PLANNING AND RESEARCH

1400 TENTH STREET  
SACRAMENTO, CA 95814

Sep 08, 1992

JIM TOWNS  
RUNNING SPRINGS WATER DISTRICT  
31242 HILLTOP BLVD.  
RUNNING SPRINGS, CA 92382

SEP 10 1992

CC: PETER STURTEVANT  
URSSubject: WASTEWATER TREATMENT UPGRADES  
SCH # 91102031

Dear JIM TOWNS:

The State Clearinghouse has submitted the above named draft Environmental Impact Report (EIR) to selected state agencies for review. The review period is now closed and the comments from the responding agency(ies) is(are) enclosed. On the enclosed Notice of Completion form you will note that the Clearinghouse has checked the agencies that have commented. Please review the Notice of Completion to ensure that your comment package is complete. If the comment package is not in order, please notify the State Clearinghouse immediately. Remember to refer to the project's eight-digit State Clearinghouse number so that we may respond promptly.

Please note that Section 21104 of the California Public Resources Code required that:

"a responsible agency or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency."

Commenting agencies are also required by this section to support their comments with specific documentation. These comments are forwarded for your use in preparing your final EIR. Should you need more information or clarification, we recommend that you contact the commenting agency(ies).

13-1 This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact Russell Colliau at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

A handwritten signature in cursive script that reads 'Christine Kinne'.

Christine Kinne  
Acting Deputy Director, Permit Assistance

Enclosures

cc: Resources Agency



# Notice of Completion

## Appendix F

See NOTE below

Mail to: State Clearinghouse, 1400 Tenth Street, Sacramento, CA 95814 916/445-0613

SCH # 91102031

Project Title: Advanced Wastewater Treatment and Reclamation

Lead Agency: Running Springs Water District

Contact Person: Jim Towns

Street Address: 31242 Hilltop Blvd.

Phone: 714-867-2766

City: Running Springs Zip: 92382

County: San Bernardino

### Project Location

County: San Bernardino City/Nearest Community: Running Springs

Cross Streets: Highway 18

Total Acres: Approx. 10

Assessor's Parcel No. \_\_\_\_\_

Section: 6

Twp. 1N

Range: 2W

Base: S. Bndo.

Within 2 Miles: State Hwy #: 18/330

Waterways: \_\_\_\_\_

Airports: \_\_\_\_\_

Railways: \_\_\_\_\_

Schools: Running Springs

### Document Type

CEQA:

☐ NOP

☐ Early Cons

☐ Neg Dec

☒ Draft EIR

☐ Supplement/Subsequent

☐ EIR (Prior SCH No.)

☐ Other

NEPA:

☐ NOI

☐ EA

☒ Draft EIS

☐ FONSI

Other:

☒ Joint Document

☐ Final Document

☐ Other

### Local Action Type

☐ General Plan Update

☐ General Plan Amendment

☐ General Plan Element

☐ Community Plan

☐ Specific Plan

☒ Master Plan

☐ Planned Unit Development

☐ Site Plan

☐ Rezone

☐ Prezone

☐ Use Permit

☐ Land Division (Subdivision, Parcel Map, Tract Map, etc.)

☐ Annexation

☐ Redevelopment

☐ Coastal Permit

☐ Other

### Development Type

☐ Residential: Units \_\_\_\_\_

Acres \_\_\_\_\_

☐ Office: Sq.ft. \_\_\_\_\_

Acres \_\_\_\_\_

Employees \_\_\_\_\_

☐ Commercial: Sq.ft. \_\_\_\_\_

Acres \_\_\_\_\_

Employees \_\_\_\_\_

☐ Industrial: Sq.ft. \_\_\_\_\_

Acres \_\_\_\_\_

Employees \_\_\_\_\_

☐ Educational \_\_\_\_\_

☐ Recreational \_\_\_\_\_

☐ Water Facilities: Type \_\_\_\_\_

MGD \_\_\_\_\_

☐ Transportation: Type \_\_\_\_\_

☐ Mining: \_\_\_\_\_

Mineral \_\_\_\_\_

☐ Power: \_\_\_\_\_

Type \_\_\_\_\_

Watts \_\_\_\_\_

☒ Waste Treatment: Type Tertiary - 1 MGD

☐ Hazardous Waste: Type \_\_\_\_\_

☐ Other: 8 miles of reclaimed water line

### Project Issues Discussed in Document

☐ Aesthetic/Visual

☐ Agricultural Land

☐ Air Quality

☒ Archeological/Historical

☐ Coastal Zone

☒ Drainage/Absorption

☐ Economic/Job

☐ Fiscal

☐ Flood Plain/Flooding

☒ Forest Land/Fire Hazard

☒ Geologic/Seismic

☐ Minerals

☐ Noise

☐ Population/Housing Balance

☒ Public Services/Facilities

☐ Recreation/Parks

☐ Schools/Universities

☐ Septic Systems

☒ Sewer Capacity

☒ Soil Erosion/Compaction/Grading

☐ Solid Waste

☐ Toxic/Hazardous

☒ Traffic/Circulation

☒ Vegetation

☒ Water Quality

☒ Water Supply/Groundwater

☒ Wetland/Riparian

☒ Wildlife

☒ Growth Inducing

☒ Landuse

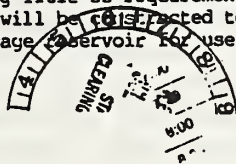
☒ Cumulative Effects

☐ Other

### Present Land Use/Zoning/General Plan Use

Institutional, Residential, Commercial and Forest Service Lands

Project Description The existing secondary wastewater treatment plant will be upgraded to tertiary level, meeting Title 22 requirements for unrestricted irrigation. An 8.5 mile reclaimed water pipeline will be constructed to a ski resort. Reclaimed water will be piped to an existing storage reservoir for use for snow making and summer irrigation at the ski resort.



CLEARINGHOUSE CONTACT: Tom Loftus  
(916) 445-0613

STATE REVIEW BEGAN: 7.24.92

DEPT REV TO AGENCY: 8.31

AGENCY REV TO SCH: 9.4

SCH COMPLIANCE: 9.8

PLEASE NOTE SCH NUMBER ON ALL COMMENTS

PLEASE FORWARD LATE COMMENTS DIRECTLY TO THE LEAD AGENCY ONLY

WQMD/APCD: 33/26 (Resources: 7.25)

\*S\* = sent by lead / \*\* = sent by SCH

CMT SNT

Resources

Fish & Game

DWR

Caltrans

Health

CMT SNT

State/Consumer Svcs

SWRCB--Grants

SWRCB--Wtr Quality

SWRCB--Wtr Rights

Reg. WQCB 16

State Lands Comm

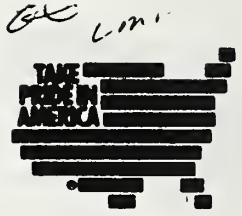




IN REPLY REFER TO:

# United States Department of the Interior

OFFICE OF THE SECRETARY  
Office of Environmental Affairs  
600 Harrison Street, Suite 515  
San Francisco, California 94107-1376



ER 92/700

September 4, 1992

Gene Zimmerman, Forest Supervisor  
San Bernardino National Forest  
U.S. Forest Service  
1824 South Commercenter Circle  
San Bernardino, California 92408-3430

RECEIVED  
OCT 10 1992  
URS CONSULTANTS, INC.  
SAN BERNARDINO

Dear Mr. Zimmerman:

The Department of the Interior (Department) has reviewed the Draft Environmental Impact Statement for Running Springs Wastewater Treatment Plan, San Bernardino County, California (ER 92/700). The Department offers the following comments to assist in the preparation of the final document.

## GENERAL COMMENTS

14-1 In general, the document adequately addresses the purpose of the proposed action and various alternatives. However, the environmental impact of nutrient-laden reclaimed water on the North Fork of Deep Creek and Deep Creek is not addressed in detail. The U.S. Fish and Wildlife Service supports beneficial uses of reclaimed water for fish and wildlife enhancement. As demand for water increases in the San Bernardino Mountains, water tables are dropping and springs are ceasing to flow. An opportunity exists here to provide for a multitude of beneficial uses of reclaimed water with nutrient removal, such as

14-2 enhancement of riparian habitats, stream flows, and wetlands. Therefore, we recommend considering another alternative that would combine the Preferred Alternative with Alternative 4 (Nutrient Removal).

14-3 Many of the sensitive species identified in this document are candidate species for listing as threatened or endangered pursuant to the Endangered Species Act of 1973, as amended. Efforts should be made to avoid any direct and indirect impacts to these species with a focus on enhancement of their habitats.

We appreciate the opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read 'Patricia Sanderson Port', with a stylized flourish at the end.

Patricia Sanderson Port  
Regional Environmental Officer

cc:

Director, OEA, w/original incoming  
Regional Director, FWS, Portland



U.S. Department  
of Transportation

**Federal Aviation  
Administration**

Western Pacific Region

P.O. Box 92007  
Worldway Postal Center  
Los Angeles, CA 90009

SEP 14 1992

Tracy Kremer, Lands Forester  
Arrowhead Ranger District  
P.O. Box 7  
Rimforest, CA 92378

Dear Ms. Kremer:

15-1 | We have reviewed the Draft Environmental Impact Statement for Running Springs  
Water District and have no comments.

If you have any questions or need additional information, please contact Barry  
Brayer, Manager, Quality & Environmental Staff, at (310) 297-1231.

Sincerely,

Carl B. Schellenberg  
Regional Administrator





1932

# SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT

101 EAST REDLANDS BLVD., SUITE 247  
P.O. BOX 1839, REDLANDS, CA 92373-0581

TEL (714) 793-2503  
FAX (714) 793-0188

September 15, 1992

Tracy Kremer  
Lands Forester  
Arrowhead Ranger District  
P.O. Box 7  
Rim Forest, CA 92378

Dear Ms. Kremer:

RE: Running Springs Advanced Wastewater Treatment and  
Reclamation Project - Draft EIR/EIS

The purpose of this letter is to comment on your Draft EIR/EIS for the above-referenced project. The project involves a thorough review of possible wastewater reuse alternatives and recommends an innovative way of utilizing a water supply from the wastewater treatment plant. Staff is supportive of programs that involve wastewater reuse and believe that the recommended alternative is a project that should be pursued.

16-1 On Page S-8, the report states that an intensive water quality launching program will be carried out for three years following the initiation of the recommended project. It is believed that this monitoring program is especially important to detect any water quality degradation that might occur from the project.

Thank you very much for the opportunity to review and comment on this important project.

Very truly yours,

Nereus L. Richardson  
General Manager/Chief Engineer

NLR/cs

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LAHONTAN REGION**

VICTORVILLE BRANCH OFFICE  
15428 CIVIC DRIVE, SUITE 100  
VICTORVILLE, CA 92392-2383  
(619) 241-6583  
FAX No. (619) 241-7308

**RECEIVED****JAN 2 6 1993**

URS CONSULTANTS, INC.  
SAN BERNARDINO

December 8, 1992

Jim Towns  
Running Springs Water District  
31242 Hilltop Blvd  
PO Box 2206  
Running Springs CA 92382

Dear Mr. Towns:

**COMMENTS REGARDING EIR/EIS FOR RUNNING SPRINGS ADVANCED WASTEWATER TREATMENT  
AND RECLAMATION PROJECT, SAN BERNARDINO COUNTY**

We have reviewed the draft EIR/EIS for the above facility. The following concerns/comments should be addressed and included in the Final EIR/EIS to determine water quality impacts and necessary mitigation measures from this project:

The Basin Plan prohibits wastewater disposal above elevation 3200 feet in the area of interest. An exemption to the prohibition would be required from our Regional Board. In order for the Board to consider such an exemption, a complete analysis needs to be included to compare and contrast the beneficial uses in each portion of the project verses the prohibition:

1. Irrigation
2. Use of wastewater for firefighting
3. Deep Creek watershed augmentation
4. Relevant ground water recharge areas

17-1

What are some similar projects considered or undertaken elsewhere (i.e. use of reclaimed tertiary treated wastewater) and how did they impact the environment?

17-2

The draft EIR/EIS discusses dechlorination measures near the reservoir. To what level would the water be dechlorinated?

17-3

**Section 2.1 - Tertiary Upgrade**

This Section does not address mitigation and remediation measures for Wastewater Plant upsets and spillage. Where will untreated and treated wastewater be discharged in cases of upsets and/or spillage?

17-4

### Section 2.2.2 - Reclaimed Water Pipeline

What are some factors to consider to assure pipeline reliability in extreme environments such as freeze-thaw conditions, seismic activity, and slope failure? Does the geology in relevant areas provide for pipeline construction? Determine mitigation and remediation measures to prevent and respond to any accidental wastewater spills resulting from breakage of the pipeline.

17-5

The draft EIR/EIS discusses the use of the wastewater for firefighter use. How would the firefighters be protected against possible chlorine ingestion?

17-6

### Section 2.2.3 - Snow-Making with Reclaimed Water

Will the size of the containment account for rain water runoff as well as snow melt? What are some remediation measures to account for any accidental overflow of the containment area? Please be aware that administrative civil liability according to Section 13264 of the Water Code may be imposed by this Regional Board for any unauthorized discharges.

17-7

How would percolated treated wastewater in the vadose zone be contained? If not contained, the treated wastewater would eventually flow into Deep Creek, and State water quality standards for Deep Creek would be exceeded from nitrate and chloride loading through ground water transport (Table 3.3-3 and Section 4.3.1, North Fork of Deep Creek).

17-8

### Section 4.2.1 - Preferred Alternative

"...The tertiary treatment process would not materially affect the effluent concentrations of most of the parameters for which there exist numerical standards on Deep Creek..." Has there been any laboratory analysis to confirm this? If there is an impact, what is the expected water quality in Deep Creek after exposure to tertiary treated wastewater. Will fisheries, wildlife, and other biota be impacted? Compare and contrast current water quality constituents and their concentrations versus foreseeable water quality constituents and their concentrations in Deep Creek.

17-9

### Section 4.2.2 - Alternative 1: Use of Reclaimed Water for Irrigation

A park may involve the use of the treated wastewater for irrigation. Discuss mitigative measures to control runoff.

17-10

### Section 4.4.1 - Preferred Alternative

"...During the summer at the Snow Valley Ski Resort, the ski slopes would be irrigated as needed to maintain a grass cover..." Is irrigation proposed during the times when there is no snow (i.e. spring and fall, parts of winter)? Wastewater should be used by evapotranspiration at all times when irrigation occurs. Can grass grow during spring and fall and parts of winter when there is no snow on the ski slope? If not, where would treated wastewater that was designated for irrigation on the ski slope be discharged?

17-11



**Section 7 - Irreversible Commitments of Resources and Unavoidable  
Significant Impacts**

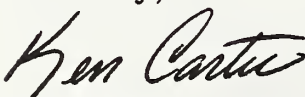
"...melting snow would raise nutrient and other water quality parameters well above the state water quality standards within the North Fork of Deep Creek." The Regional Board will need to grant an exemption for this alternative. What are the beneficial uses of this discharge when the State standards will not be adhered to during snowmelt periods? 17-12

The Running Springs Water District must obtain the following before discharge occurs for this project:

1. Waste Discharge Requirements issued by the Regional Water Quality Control Board;
  2. Submittal of NOI's for General Construction Activity Storm Water Permit and Amended General Industrial Activities Storm Water Permit issued by the State Water Resources Control Board; and
  3. Section 401 - Water Quality Certification issued by the Regional Water Quality Control Board.
- 17-13

If you have any questions or comments, please contact Ted Evans or me at this office.

Sincerely,



Ken Carter  
Senior Engineer

rp8/towns

cc US Department of Agriculture  
URS Consultants, San Bernardino ✓

**Response to Letter from California RWQCB - Lahontan Region**  
**Dated August 12, 1992 (Letter 1)**

- 1-1      The Running Springs Water District and its Engineer have initiated contact with the Regional Board staff to develop a Report of Waste Discharge for the Project.

**Response to Letter from State Water Resources Control Board - Division of Water Rights  
Dated August 12, 1992 (Letter 2)**

- 2-1      The Running Springs Water District has applied to the Board for a change in the point of discharge, as requested.



**Response to Letter from Forest Service Forest Engineer  
Dated August 17, 1992 (Letter 3)**

- 3-1 To minimize the potential for water losses in the event of pipeline breakage, automatic shutdown valves will be installed at each pump station. These valves have seismic and water pressure sensors which can be set to automatically close when preset settings are exceeded, such as would occur if the pipe were ruptured. The greatest amount of water which could be released would result from a rupture immediately above Booster Pump No. 2, located in the Fredalba area. At this point, slightly less than 100,000 gallons could drain from the pipe, a moderate amount of water. Water District personnel would repair the pipe damage and any associated erosion damage within a short period.
- 3-2 Alternatives 3 and 5 deal with reclaimed water transport by tanker truck. Non-winter truck traffic impacts would not be serious because considerably less water would be transported on a daily basis, since the ski resort demand would be relatively low. Tanker truck traffic in the winter could be scheduled to avoid peak traffic congestion on the highways, particularly on weekends and holidays. Tanker truck movement at night would also avoid highway congestion. See Section 4.7.4 of the Draft EIR/EIS for further information.

**Response to Letter from Southern California Association of Governments**  
**Dated August 20, 1992 (Letter 4)**

- 4-1 The proposed project is consistent with the policies and water supply recommendations of the Regional Growth Management Plan in a number of ways. The proposed project is supportive of a number of GMP policies including: (1) the provision of a dependable and reliable supply of water, (2) the preservation of the quality and integrity of surface and groundwater resources, (3) a commitment to water conservation, and (4) accomplishment of water supply and quality improvements in a cost-effective manner.
- 4-2 It should be pointed out that the proposed project would greatly reduce the water resource demands of a major water user in the Running Springs area: the Snow Valley Ski Resort. The Forest Service will continue to pursue water resource enhancement projects where applicable.

**Response to Letter from California Department of Transportation  
Dated August 25, 1992 (Letter 5)**

- 5-1 During the project design phase, the Department will be asked to review the reclaimed water pipeline plans. The applications for required encroachment permits will be submitted to the Department.



**Response to Letter from California RWQCB - Santa Ana Region**  
**Dated August 27, 1992 (Letter 6)**

- 6-1 Section 4.2.1 of the Draft EIR/EIS specifically addresses the treatment requirements of Title 22 and states that the proposed treatment process would meet these requirements. See also Response 10-2.
- 6-2 Uranium occurs in the wastewater and sludge at relatively low levels and does not violate any current health or other regulations. See Section 2.2.5.
- 6-3 The basic program for use of reclaimed water at the Snow Valley Ski Resort is described in the Draft EIR/EIS. The District has initiated discussions with the Lahontan Regional Water Quality Control Board staff concerning specific waste discharge requirements for reclaimed water use at the Snow Valley Ski Resort. Specific containment and stream monitoring requirements will be worked out with the Lahontan Board.
- 6-4 Prior to construction, the Army Corps of Engineers will be contacted to determine specific permitting requirements. Since this is a municipal pipeline project, it is likely to qualify for a Nationwide Permit, and would require water quality certification from the Regional Board. As stated in Section 4.3.1, construction of the drainage crossings will occur during the summer period when there is no flow within the drainages, thus avoiding water quality impacts.
- 6-5 Total land disturbance due to construction is estimated to be between 7.5 to 9 acres (refer to Table 4-1 of the Draft EIR/EIS). For construction sites greater than 5 acres, a general stormwater permit must be obtained from the appropriate regional water quality control board. This project lies within the jurisdiction of two regional boards: Santa Ana and Lahontan. The District will work with the two boards in preparing the required Storm Water Pollution Prevention Plan and in obtaining the permit(s).

Additionally, the construction contractors will be required to obtain the required dewatering permits as necessary for pipeline construction. A mitigation incorporating these two requirements has been added to the EIR/EIS.

**Response to Letter from State Water Resources Control Board -  
Division of Clean Water Programs Dated August 28, 1992 (Letter 7)**

- 7-1 The five items were requested in this comment are standard items associated with filing a Final EIR and will be supplied, as requested, following certification of the Final EIR/EIS.
- 7-2 An air quality analysis has been added to the Final EIR/EIS (see Section 2.2.1).
- 7-3 The project would consist of a one-acre expansion at the current treatment plant site and approximately nine miles of pipeline within a narrow (25-foot) corridor. The treatment plant site is not visible from Running Springs nor from any highway or local road other than the dead-end local access road to the plant, itself. The pipeline route follows existing roads for the majority of its length and is screened by trees for nearly all of its remaining offroad length. The initial quarter mile of pipe leading away from the treatment plant runs up a treeless slope which was disturbed when a pipeline to the treatment plant was installed a few years ago. This and other disturbed sections will be revegetated with grasses and native species. No substantial aesthetics impacts would result from the project and this issue was therefore not examined in detail in the EIR/EIS.
- 7-4 The designated beneficial uses of these two streams are discussed in Section 2.2.3 of the Final EIR/EIS.
- 7-5 The reservoir in question is isolated, hydrologically, from the Deep Creek drainage. It is also isolated from recreational access, with only limited fishing allowed by the ski resort. It was constructed expressly to retain sediment from nearby ski slopes and to store water for snow-making. Under the Preferred Alternative, it would continue to fulfill these functions. For these reasons, impact to the reservoir is not considered a significant water quality impact.
- As a result of recreational development plans by the Forest Service, a change in the trophic status of the reservoir could result in a significant aesthetics impact. Refer to the discussion in Section 2.2.6.
- 7-6 Field surveys for sensitive plants and animals in the vicinity of the existing treatment plant facility and the proposed pipeline corridor were conducted in May, June and July of 1992. The results of these surveys are discussed in Section 2.2.2.

**Response to Letter from the Sierra Club**  
**No Date (Letter 8)**

- 8-1 Alternative 4 would reduce the nitrogen and phosphorus levels in the reclaimed water. However, as discussed in Section 4.3.5 of the Draft EIR/EIS, existing water quality standards for the North Fork of Deep Creek would still be substantially exceeded during the spring snowmelt period. The water quality further down in the Deep Creek Watershed would not be substantially changed under either the Preferred Alternative nor Alternative 4.

Alternative 4 would be substantially more costly than the Preferred Alternative. The cost of the treatment plant upgrade would more than double from \$2.1 to \$4.5 million. Overall project construction costs would increase by 44 percent from \$5.5 to \$7.9 million. In addition, Alternative 4 would involve substantially higher operation and maintenance costs due to the increased level of treatment.

As for using reclaimed water for local groundwater recharge, this could be accomplished equally under either the Preferred Alternative or Alternative 4.

- 8-2 The project would more than redress this imbalance because a high proportion of the reclaimed water would originate as water imported into the area from the State Water Project via the Crestline-Lake Arrowhead Water Agency and would represent a new water source.

- 8-3 As stated in Response 8-1, the water quality standards for the North Fork of Deep Creek would still be exceeded during the spring snowmelt period under Alternative 4. This impact would be short term, typically lasting from one to two months each year. It would occur early in the season when the stream temperature is relatively low and streamflow is at its highest. Therefore biological impacts within the stream would probably be minor.

A three-year aquatic biology and water quality monitoring program is proposed to document stream impacts following project startup (refer to Appendix E of the Draft EIR/EIS). Serious stream impacts are not expected, but if they occurred, the project would be modified to deal with the impacts in a manner acceptable to the wildlife agencies.

- 8-4 As stated in Section 4.3.5 of the Draft EIR/EIS, all water resource mitigations for the Preferred Alternative would also apply to Alternative 4, including cessation of pumpage by the ski resort from the North Fork of Deep Creek.

- 8-5 The Record of Decision for the EIR for the 1989 Land and Resource Management Plan calls for a study of several sections of Deep Creek to determine their eligibility for inclusion under the Wild and Scenic Rivers Program. Three segments of the stream starting below Running Springs would be studied for designation as a scenic river. The



**Response to Letter 8**  
**Continued**

segment through and above Running Springs would be studied for designation as a recreation river, the least restrictive category. As of Fiscal Year 1993, this study has not yet been initiated.

Any of the project alternatives which would result in increased flow in the upper portion of the stream would tend to be supportive of eventual designation under the Wild and Scenic Rivers Program.

- 8-6 As indicated in the comment, one of the project mitigation measures is the creation of riparian habitat on Forest Service land at one or more locations along the pipeline route.

**Response to Letter from State Office of Historic Preservation  
Dated August 31, 1992 (Letter 9)**

- 9-1      We appreciate your acknowledgement that the project has fulfilled the federal agency requirements related to Section 106 of the National Historic Preservation Act. As stated in Section 4.5 of the Draft EIR/EIS, no historic properties would be impacted by the project.

**Response to Letter from Federal Center for Disease Control  
Dated August 31, 1992 (Letter 10)**

- 10-1 Section 4.2.1 of the Draft EIR/EIS contains a mitigation requiring the posting of signs around the ski area which state that reclaimed water is being used and warning against deliberate ingestion of the snow.

The ski resort has conducted informal surveys in the past year, asking skiers their opinion of the possible use of reclaimed water for snow-making. The responses have been generally encouraging enough for the ski resort to sponsor additional engineering and environmental work in support of the project. Reclaimed water is commonly used in southern California for golf course and urban landscape irrigation. There are several major reclaimed water projects which recharge aquifers utilized for municipal water supply. The extended drought in California, which is entering its seventh year, has heightened people's awareness of the necessity of utilizing reclaimed water. Public support for this concept is widespread in the region.

The project is felt to have a considerable positive environmental appeal with the public. The ski resort operator intends to develop a public display for the ski lodge. It will highlight the reclaimed water project, emphasizing the role that reclaimed water is playing in supporting the ski operations of the resort and in conserving water.

- 10-2 Monitoring requirements for the reclaimed water will be established by the Regional Water Quality Control Board, and are based upon (California Administrative Code) Title 22 requirements (see Section 4.2.1 of the Draft EIR/EIS). For tertiary treated water used for snow-making, the treatment process must meet very high treatment standards. Turbidity must average 2 NTUs with a maximum value of 5 NTUs. The median coliform count must not exceed 2.2 per 100 milliliters (based upon the last 7 days of analyses) nor can the maximum count exceed 23 per 100 milliliters. Continuous monitoring of effluent turbidity and daily coliform tests are typically required to demonstrate compliance with the treatment requirements.

The wastewater treatment process will meet Title 22 requirements for treatment and disinfection, allowing unrestricted use of the reclaimed water up to, and including body contact. The filtration and disinfection requirements in Title 22 were developed from studies which demonstrated the level of wastewater treatment necessary to eliminate pathogenic viruses, bacteria and other micro-organisms, including Giardia. As a result, specific testing for other pathogens is typically not required. The reclaimed water will be essentially pathogen-free and will not pose a health risk.



**Response to Letter from U.S. Environmental Protection Agency  
Dated September 8, 1992 (Letter 11)**

- 11-1 Refer to Response 7-5.
- 11-2 As stated in the mitigations found in Section 4.2.1 of the Draft EIR/EIS, an operations procedure will be developed prior to project startup to assure that the reservoir is managed to preclude spillage of impounded reclaimed water downstream into the Deep Creek drainage.
- 11-3 The data summarized in Table 3.3-3 of the Draft EIR/EIS, indicate that the quality of the North Fork of Deep Creek is generally excellent. The state standards for the creek were derived from an average of a limited set of water quality data more than a decade ago. The data in Table 3.3-3 indicate that the current background water quality of this creek is slightly lower than the water quality standards set for the creek. If this condition is verified by further sampling results, a reconsideration of the standards for this stream may be in order.
- 11-4 Sections 4.2.1 and 4.3.1 discuss nearly all of the water resource issues raised on page 1-4 of the Draft EIR/EIS in considerable detail. The issue of the water quality impact of a possible snow-making additive (Snomax), which is commonly used at ski resorts, is discussed in Section 2.2.4 of this document.
- As explained in the Draft EIR/EIS, the project would have a number of positive ecological impacts. Flow enhancement to the North Fork of Deep Creek would result in a better habitat for supporting a permanent fishery. Increased summer irrigation of ski slopes would allow establishment of a better grass cover, reducing erosion potential and providing more forage for deer. Reclaimed water would be utilized along the pipeline route to establish one or more riparian areas along intermittent drainages, increasing this scarce but important habitat.
- 11-5 In addition to this comment requesting an air quality analysis of the project, comments were received from the South Coast Air Quality Management District (SCAQMD) requesting a detailed air quality review of the project (see Letter 12). Subsequent discussions were held with the staffs of the Environmental, Planning and Public Facilities Groups at SCAQMD. The project was discussed in detail and the types of analyses were clarified. An air quality analysis appears in Section 2.2.1 of this document. It concludes that none of the project air emissions during construction or during operation would exceed the SCAQMD thresholds for significance. It is therefore concluded that the project would not have a significant air quality impact.
- 11-6 As explained in Section 4.7.1 of the Draft EIR/EIS, the project would not expand the existing skier capacity of the Snow Valley Ski Resort. It would therefore not affect the existing peak traffic levels or congestion currently experienced along Highway 18, the chief route through the project area.

**Response to Letter 11**  
**Continued**

During years of below-normal snowfall, the project would provide the ski resort with a more reliable water supply for snow-making, allowing the resort to provide a better snow base for potential skiers than is currently the case. The Snow Valley Ski Resort is 13 miles closer to the metropolitan area than are the ski resorts in Big Bear. With a good, artificial snow base, the Snow Valley Ski Resort may attract more skier traffic during drier years than is currently the case. To the extent that this occurs, positive traffic effects would occur in the Big Bear area.

Without any basis for quantifying this effect, it would be speculative at this point to try to specifically analyze the possible change in traffic pattern. As stated above, there is every indication that this effect would be positive by reducing the total amount of skier traffic traveling on to Big Bear.

- 11-7 A review of the proposed project with regard to SCAG conformity review procedures for wastewater treatment facilities was inadvertently left out of Section 4.6 and is therefore presented here. A major objective of the conformity procedures is to set forth a process for ensuring that project approvals give adequate consideration and weight to the South Coast Air Basin's air and water quality priorities.

According to the guidelines the following types of wastewater projects are not subject to the conformity procedures: (1) conveyance systems, (2) effluent pipelines, and (3) projects which do not result in an increase in sewerage service, such as an expansion in treatment capacity. Categories 2 and 3 are relevant to the proposed project. It includes an nine mile effluent pipeline to transport reclaimed water to the ski resort for snow-making. The proposed project would upgrade the treatment plant to allow tertiary treatment of wastewater. It would not expand present treatment capacity and not result in an increase in sewerage service. For these reasons, the proposed project would not be subject to conformity procedures.

- 11-8 The Geology and Soils mitigation referring to monitoring of seeded areas has been changed to require annual monitoring for a period of three years.

- 11-9 As stated in the EIR/EIS, the project would not add additional skier capacity and would therefore not tend to increase the traffic congestion currently experienced in Running Springs on the peak winter ski periods. The project could divert additional ski-related traffic to the Snow Valley Ski Resort during ski seasons with poor snowfall. This could serve to reduce the skier traffic headed further east on Highway 18, possibly improving traffic conditions in the Big Bear area. The overall project traffic impacts are therefore judged to be not significant see Response 11-6).

Discussions with Caltrans have indicated that they are satisfied with the conclusion that the traffic impact on the state highway system as a result of the proposed project would

**Response to Letter 11**  
**Continued**

not be significant. They do not believe that further traffic analysis or monitoring for this project is needed.

11-10 Refer to Response 10-1.

11-11 Long-range development plans indicate that only one or two additional ski lifts are being planned for the Snow Valley Ski Resort. This actually represents a scaling back from a number of new ski lifts that were originally planned several years ago. The Forest Service has reiterated that no expansion in the capacity of the ski resort is being contemplated. As a result the project will not trigger increased development.



**Response to Letter from South Coast Air Quality Management District  
Dated September 8, 1992 (Letter 12)**

- 12-1 Discussions have been held with the staffs of the Environmental, Planning and Public Facilities Groups at the South Coast Air Quality Management District at which the project was discussed in detail and the types of needed air quality analyses were clarified. An air quality analysis appears in Section 2.2.1 of this document. This analysis contains a discussion of the air quality setting of the region, using the most recent three years of data from the nearest air quality monitoring station in Crestline.
- 12-2 Using the methodology from the current CEQA Air Quality Handbook, air emissions of criteria pollutants due to project activities have been calculated (see Section 2.2.1 of this document). It has been determined that none of the project air emissions during construction or during operation would exceed the SCAQMD thresholds for significance. It is therefore concluded that the project would not have a significant air quality impact.
- 12-3 The tertiary treatment process proposed for the wastewater treatment plant involves the addition of alum and polymer to promote coagulation and removal of suspended particles. These are common water treatment chemicals. Neither compound is volatile and the process will take place within an enclosed facility. This part of the treatment process poses no health or safety risk.

The project proposes to use chlorine for disinfection of the treated water. This material exists as a gas at atmospheric pressure and normal temperatures. Due to its toxic characteristics it is identified as an extremely hazardous material by the state. Chlorine gas will be stored in large, pressurized containers. The tanks, in turn, will be stored in a special containment room in which a slightly negative air pressure is maintained. Thus, any breach to the containment room would cause inward movement of air. The air from the containment room will be exhausted through a special venting and exhaust gas scrubbing system which will be installed in the containment room. This will prevent the escape of any chlorine should a leak develop. Therefore, the use of chlorine at the treatment plant site would not pose a health risk.

- 12-4 As stated in Response 12-2, an air quality analysis of the project revealed no significant air quality impacts. Therefore project alternatives to reduce air quality impacts were not examined. Alternatives 3 and 5, which deal with tanker truck transport of water to the ski resort, were examined for truck emissions and were found not to exceed the emissions thresholds for criteria pollutants.
- 12-5 The ski resort plans only limited additional development at this time, consisting of one or probably two additional ski lifts. Plans for recreational development in the vicinity of the Snow Valley Ski Resort are reviewed in Section 5 of the Draft EIR/EIS. Development plans in the vicinity of the ski resort are limited and would not introduce significant cumulative air quality impacts. Continued substantial development in the mountain

**Response to Letter 12**  
**Continued**

communities, including Running Springs, is acknowledged in the Draft EIR/EIS as likely to lead to a deterioration of air quality conditions.

- 12-6 The proposed project is consistent with the policies and water supply recommendations of the Regional Growth Management Plan (see Response 4-1). It is also consistent with the South Coast Air Basin's air and water quality objectives and therefore is consistent with the Air Quality Management Plan. The proposed project would not generate increased traffic and would therefore be consistent with the Regional Mobility Plan.

As stated in Section 4.6.1, the treatment plant expansion poses no land use conflicts. The Snow Valley Ski Resort lies within a designated recreation zone of the Forest Service's Back Country Management Area. The project is consistent with the recreational use of this area.

- 12-7 As stated in Response 12-2, an air quality analysis of the project revealed no significant air quality impacts. Therefore no mitigations specific to air quality have been developed for the project. The erosion control plan developed by the treatment plant construction contractor shall specify daily watering of the construction site as necessary to control dust.

- 12-8 No need for demolition of existing structures have been identified for the project. There are no known contaminated areas at the treatment plant site which might pose health problems if excavated. A preliminary survey of the proposed reclaimed water pipeline route was carried out in 1991. There were no visual indications of waste dumps, stained soil or other evidence of potential soil contamination along the pipeline route. Soil and/or groundwater remediation is not expected to be a factor in the project.

- 12-9 The project would not increase treatment plant capacity but would result in a modification of the current treatment process, adding a tertiary treatment process. During the design stage, the design will be submitted to the Permits Division of the SCAQMD for a determination of the need for a modification permit.

The project would not require standby power generation or any other facilities which could generate air emissions. Therefore, air quality permits for stationary sources would not be required.

- 12-10 Assembly Bill 3205 requires special review procedures if a school boundary lies within 1,000 feet of a facility where hazardous materials may be stored. No school lies within 1,000 feet of the wastewater treatment plant. Regulation XIII addresses review of new sources of air pollution. As explained in Response 12-9, the project would not result in any new sources of air pollution.



**Response to Letter 12**  
**Continued**

Rule 212 defines basic standards for approving air quality permits. Rule 402 prohibits the discharge of air contaminants in a manner that could create a nuisance. Rule 403 requires that reasonable precautions be taken to minimize fugitive dust generation. It requires that visible dust not be present beyond the property line of the project site. Rule 1179 requires wastewater treatment plants to provide data on volatile organic carbon (VOC) emissions. This data will be used as an information base for possible future rule-making. Rule 1401 requires that emissions of certain carcinogenic materials be controlled for new or modified facilities. The upgraded wastewater treatment plant would not utilize any facilities representing new sources of air pollutants, would not generate nuisance conditions, and would not be a source of carcinogenic air contaminants. Therefore Rules 212, 402 and 1401 would not apply.

Construction at the treatment plant site could result in some dust generation. Site watering will be carried out to minimize dust generation, in fulfillment of Rule 403. With regard to Rule 1179, the project would involve a closed filtration system and would not generate increased VOC emissions at the plant site. The Running Springs Water District is currently working with SCAQMD to develop data on its existing treatment system in fulfillment of Rule 1179.

- 12-11 The facilities at the Snow Valley Ski Resort for pumping and spraying water to make snow are already in place and operational. The ski resort utilizes electrical power for pumping. The project would not change these facilities.

To determine whether any volatile organic compounds are present in the effluent from the current secondary treatment plant, a grab sample of the effluent was taken at 8:30 a.m. on November 18, 1992. At this time of day the inflowing wastewater is typically near its peak daily flow. The sample was filled and capped to avoid an air pocket, per standard protocol. The sample was then tested, using EPA Method 8240, for a total of 61 volatile organic compounds. As shown in Table 12-11, all volatiles remain below the Practical Quantitation Limit of 5 ug/l. In other words no volatile organic compound was detected in the secondary effluent. It is therefore concluded that the project would not pose an air quality problem in terms of volatile organic emissions.

It should be noted that under existing conditions, much of the effluent is piped to a land disposal site in a canyon below the treatment plant (in the Fredalba Creek drainage at an elevation of 3,400 feet) and applied via a sprinkler irrigation system. The proposed project would shift much of this sprayed water to a much higher elevation (7,000+ feet) and at freezing temperatures, thereby possibly reducing volatile emissions from their current levels.

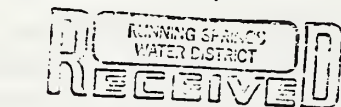


## TABLE 12-11 VOLATILE ORGANICS RESULTS FOR SECONDARY EFFLUENT

BACTERIOLOGY  
WATER TESTING  
HAZARDOUS WASTE TESTING  
CA DHS CERTIFICATION E756

LABORATORIES  
6100 QUAIL VALLEY COURT, RIVERSIDE

ESTABLISHED 1901



909/653-3351  
FAX 909/653-1662

P.O. BOX 432  
RIVERSIDE, CA 92502

To:  
Running Springs Water Dist.  
P. O. Box 2206  
Running Springs, CA 92382  
Attn: WPCP

Lab No. 921118-1278  
Invoice No. 87530

	Submitted	Sampled
By	A. Grabow	ELF
Date	11/18/92	11/18/92
Time	09:53	08:30
Chain of Custody on File: Yes		

Sample Marked: Reuse/Reclamation  
Final Effluent  
wastewater

## EPA Method 8240

Bromodichloromethane	ND	Benzene	ND
Bromoform	ND	Ethyl benzene	ND
Bromomethane	ND	Toluene	ND
Carbon tetrachloride	ND	Xylenes (total)	ND
Chloroethane	ND	Bromobenzene	ND
2-Chloroethylvinyl ether	ND	Bromochloromethane	ND
Chloroform	ND	n-Butylbenzene	ND
Chloromethane	ND	sec-Butylbenzene	ND
Dibromochloromethane	ND	tert-Butylbenzene	ND
Dichlorodifluoromethane	ND	2-Chlorotoluene	ND
1,1-Dichloroethane	ND	4-Chlorotoluene	ND
1,2-Dichloroethane	ND	Dibromomethane	ND
1,1-Dichloroethene	ND	cis-1,2-Dichloroethene	ND
trans-1,2-Dichloroethene	ND	1,3-Dichloropropane	ND
1,2-Dichloropropane	ND	2,2-Dichloropropane	ND
cis-1,3-Dichloropropene	ND	1,1-Dichloropropene	ND
trans-1,3-Dichloropropene	ND	Hexachlorobutadiene	ND
Methylene chloride	ND	Isopropylbenzene	ND
1,1,2,2-Tetrachloroethane	ND	p-Isopropyltoluene	ND
Tetrachloroethene	ND	Naphthalene	ND
1,1,1-Trichloroethane	ND	n-Propylbenzene	ND
1,1,2-Trichloroethane	ND	Styrene	ND
Trichloroethene	ND	1,1,1,2-Tetrachloroethane	ND
Trichlorofluoromethane	ND	1,2,3-Trichlorobenzene	ND
Vinyl chloride	ND	1,2,4-Trichlorobenzene	ND
Chlorobenzene	ND	1,2,3-Trichloropropane	ND
1,2-Dichlorobenzene	ND	Trichlorofluoromethane	ND
1,3-Dichlorobenzene	ND	1,2,4-Trimethylbenzene	ND
1,4-Dichlorobenzene	ND	1,3,5-Trimethylbenzene	ND
Dichlorofluoromethane	ND	Methyl ethyl ketone	ND
		Methyl isobutyl ketone	ND

Practical Quantitation Limit = 5.0 µg/L

ND = None detected at PQL.

Date Analysis Completed: 11/20/92

EDWARD S. BABCOCK & SONS, INC.

**Response to Letter 12**  
**Continued**

- 12-12 The project would not affect the existing peak traffic conditions experienced in the Running Springs area (see Response 11-6). Therefore, local carbon monoxide levels would not be substantially changed.
- 12-13 An air quality analysis, which includes construction emissions, has been incorporated into this document. Refer to Section 2.2.1.
- 12-14 An air quality analysis, which includes Alternatives 3 and 5, has been incorporated into this document. Refer to Section 2.2.1.

**Response to Letter from Governor's Office of Planning and Research  
Dated September 10, 1992 (Letter 13)**

13-1      Noted.



**Response to Letter from U.S. Department of the Interior  
Dated September 4, 1992 (Letter 14)**

- 14-1 Section 4.3 of the Draft EIR/EIS presents a detailed analysis of the transient water quality impacts of spring runoff from melting reclaimed water under Variation 1 of the Preferred Alternative and under Alternative 4 (which both involve noncontainment of ski resort runoff). Water quality impacts during the lowflow periods, when the creek would receive underflow from the ski resort, is treated more generally due to the unknown and rather speculative nature of this impact. The impacts of the project upon the aquatic biota of the North Fork of Deep Creek are more difficult to reliably predict. This is largely due to the fact that the creek has had no flow for most of the past two years. Therefore no aquatic biology data has been gathered. As shown in Section 4.3.1 (Variation 1), the dilution effects in the downstream reaches of Deep Creek would minimize project impacts on this important trout fishery.

A stream monitoring program, described in Appendix E of the Draft EIR/EIS, will be carried out for three years following project startup. This program will gather the necessary flow, quality and biological data to assess possible project impacts on the North Fork. This data will be reviewed by the regional water quality control board and the wildlife agencies, annually. If serious water quality or biological impacts appear to be developing, corrective action will be taken to avoid such impacts.

- 14-2 The Preferred Alternative, and any alternative involving a reclaimed water line routed to the Snow Valley Ski Resort, would incorporate riparian habitat enhancement using reclaimed water, as discussed in Section 4.4.1 of the Draft EIR/EIS. Nutrient removal is not necessary for this type of use.

Alternative 4 is essentially the Preferred Alternative, but with additional effluent treatment to greatly reduce nitrogen and phosphorus levels. It was shown in the Draft EIR/EIS that Alternative 4 would still fall short of meeting the water quality standards for the North Fork of Deep Creek during the snowmelt period, when melting reclaimed water (applied as artificial snow) would run off into the creek.

- 14-3 A spring survey has been conducted to specifically locate sensitive plants near the proposed route of the reclaimed water pipeline. The San Bernardino jewelflower and San Bernardino owl's clover are the two sensitive plants which may be impacted by the pipeline.

The pipeline will be routed to avoid the large concentrations of owl's clover observed near the Deerlick Ranger Station. Efforts will be made during the construction phase of the project to route the pipeline in order to avoid any direct or indirect impacts at other sensitive plant locations occurring along the pipeline corridor. A biological monitor will be present during the construction phase to ensure sensitive plants are avoided wherever possible. In the event a population of sensitive plants cannot be avoided, seeds will be collected at the appropriate time of the year and dispersed in suitable habitat using

**Response to Letter 14**  
**Continued**

methodologies accepted by the U.S. Forest Service. These new populations will be monitored by a botanist experienced in sensitive plants and appropriate actions will be undertaken, when necessary, to ensure the population's success. In addition, at least two riparian enhancement sites will be developed along the pipeline corridor and will provide new habitat for propagation of sensitive plant species normally found in riparian habitats (e.g., owl's clover and Lemon lily).

**Response to Letter from Federal Aviation Administration  
Dated September 14, 1992 (Letter 15)**

15-1      Noted.



**Response to Letter from San Bernardino Valley Water Conservation District  
Dated September 15, 1992 (Letter 16)**

- 16-1      The stream water quality monitoring program is described in Appendix E of the Draft EIR/EIS.

**Response to Letter from the California RWQCB - Lahontan Region**  
**Dated December 8, 1992 (Letter 17)**

- 17-1 This comment requests an analysis of the following beneficial uses, with and without the current wastewater discharge prohibition: irrigation, firefighting, streamflow augmentation and groundwater recharge. These uses are reviewed below.

Although individual residences utilize water in the summer for residential irrigation, the only practical irrigation option available locally is larger public landscapes such as playfields, parks and, of course, the grassed ski slopes at Snow Valley Ski Resort. As stated in Section 4.2.1 of the Draft EIR/EIS, ski slope irrigation during the summer would utilize approximately 120 acre-ft/yr. Currently the ski resort utilizes very little water for irrigation. Partly as a result, the resort has had considerable difficulty in establishing a good grass cover on all of its slopes.

Other local opportunities for landscape irrigation were examined in Section 4.2.2 of the Draft EIR/EIS. A single school grounds and a proposed park at Arrowbear Lake would encompass a total of 4.5 acres with an irrigation requirement estimated to be 4.5 acre-ft/yr. The school groundwater are currently irrigated from the municipal water supply. The park, when developed, would either use the municipal supply or the limited water available from Arrowbear Lake. Use of reclaimed water for irrigation would require that the application rates be controlled to assure that no surface runoff left the site. With this precaution, use of reclaimed water would have little water quality impact.

The proposed project would present a new source of water for fire-fighting along the eastern four miles of the reclaimed water pipeline where there is currently no piped water supply. Most of this route is National Forest land with very little development. The water would be available to fight a forest fire in the area. The pipeline would pass near the southern portion of Arrowbear and would be an important fire-fighting resource in that respect. Use of the pipeline for fire-fighting purposes would occur very rarely and from a quantity standpoint the amount of water used for this purpose would be minimal. However when needed, the beneficial use for this purpose would be very important.

Flow augmentation is expected to result from an increase in local groundwater recharge (from the added snowpack at the ski resort) and from the elimination of the need to pump shallow groundwater to refill the existing reservoir at the ski resort. In a normal year, about 200 acre-ft of reclaimed water would be applied as artificial snow at the ski resort. If 20 percent of the reclaimed water infiltrates to the local groundwater (see Appendix D of the Draft EIR/EIS) and resurfaces in the North Fork of Deep Creek later in the season, 40 acre-ft of flow augmentation would occur. Full retention of the snowmelt from the ski resort slopes would reduce spring runoff to the North Fork by an estimated 108 acre-ft in a year of average precipitation (see Section 4.3.1 of the Draft EIR/EIS). Thus, although the Preferred Alternative would tend to boost the summer baseflow in the creek, it would reduce overall creek flow by about 68 acre-ft/yr due to a reduction in spring runoff contributed by the ski resort.

## Response to Letter 17

### Continued

Under Variation 1 of the Preferred Alternative, where the spring runoff would not be contained onsite but would flow directly into the North Fork, approximately 70 percent of the applied reclaimed water forming artificial snow would enter the North Fork, either as spring snowmelt or groundwater percolation. The additional flow increase under Variation 2 calculates to 140 acre-ft.

The recharge of local groundwater aquifers for municipal water supply is currently possible only through the use of imported water. This imported water, supplied by the Crestline-Lake Arrowhead Water Agency, is already treated to a level appropriate for human consumption. Its use to recharge groundwater would be very expensive. It is not currently feasible to recharge water from this source. Small to moderate-sized impoundments to contain local runoff for infiltration might have merit, hydrologically, but would entail other environmental impacts, as would the diversion of the only perennial stream in the area: Deep Creek.

Reclaimed water represents a new source of groundwater recharge to the area. The State Department of Health Services has published guidelines governing the use of reclaimed water for recharging municipal aquifers. Those guidelines and their application to one of the project alternatives (i.e., groundwater recharge) are discussed in Section 4.2.3 of the Draft EIR/EIS. Available information suggests that incidental seepage from the reservoir, where the reclaimed water would be stored, would provide about 47 acre-ft/yr of recharge and would meet state guidelines. Other recharge sites in the Running Springs area may also exist and it is likely that recharge potential for reclaimed water is considerably greater.

- 17-2 A wealth of information exists on the water quality effects of water reclamation projects. A thorough review of this topic would by itself fill a large volume. Below are summarized two studies which bear some relation to the proposed project.

The Draft EIR/EIS discusses the results of a test project conducted in nearby Arrowhead in the mid-1970s. In that project, a series of vegetated plots were irrigated with secondary effluent as part of a test program to study establishment of firebreaks. A detailed stream and shallow groundwater sampling program was carried out to determine the water quality effects of summer season irrigation using secondary effluent. As abstracted from the Draft EIR/EIS:

In that study, a series of vegetated plots were irrigated during the drier months with secondary treated effluent. The plots were located in mountainous terrain (elevation of approximately 4,700 feet) 7 miles northwest of Running Springs. The irrigation was carried out over the course of three seasons. The groundwater was sampled at two points: one within the irrigated plots and one downgradient. Six samples taken during



## Response to Letter 17

### Continued

the final irrigation season showed relatively low levels of the above constituents. Nitrate averaged 0.2 mg/l (as N). Chloride averaged 23 mg/l and TDS averaged 213 mg/l. Total phosphorus averaged 0.1 mg/l. The highest nitrogen concentration occurred as ammonia (0.6 mg/l as N) and organic nitrogen (1.6 mg/l). Those latter results may have been due to the shallow depth to groundwater, which averaged 5.9 feet below ground surface.

The above results were derived from a system that involved only dry-season irrigation (i.e., no snow-making) and at a lower elevation than the Snow Valley Ski Resort. However, the results indicate that the degree of local degradation of groundwater from the project would likely be minor.

One of the earliest and best known examples of treated effluent reuse for recreational purposes involved the South Tahoe Public Utilities District. Starting in the late 1960s, effluent from the South Lake Tahoe area was given a high level of tertiary treatment, including phosphorus reduction and carbon filtration, and then pumped outside of the Lake Tahoe Basin to the Indian Creek Reservoir, located in the Carson River Valley, to the east. No natural outflow from this reservoir was allowed. However, water from the reservoir was used as an irrigation supply for farms in the valley. A successful put-and-take trout fishery was maintained in the lake. Fish kills in the reservoir in the 1970s were attributed to high unionized ammonia levels and breakpoint chlorination of the effluent was instituted to reduce ammonia concentrations in the reservoir.

A limnological survey carried out in 1979-1980<sup>1</sup> documented that the lake was highly eutrophic (high algal and aquatic plant productivity), due mainly to the high nutrient inputs from the treated effluent. The lake bottom and much of the lake surface was covered with aquatic plant growth. The pH of the lake fluctuated widely during algae blooms, occasionally exceeding 10 and unionized ammonia slightly exceeded the standard of 0.2 mg/l. Dissolved oxygen declined to around 5 mg/l during the summer. No harm to the trout fishery was documented. This was attributed to the fact that the trout fishery in the lake was artificially maintained with plantings of adult fish, which are generally more tolerant than juveniles to water quality fluctuations. Among other things, the study recommended that the most effective way to control unionized ammonia would be to control the wide fluctuations of pH in the lake.

Indian Creek Reservoir had been (and continues to be) a regionally important recreational fishery resource. Due to the high effluent treatment costs and continuing concerns over long-term water quality, the South Tahoe Public Utilities District constructed another,

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<sup>1</sup>D.B. Porcella et al., Existing and Projected Water Quality Problems at Indian Creek Reservoir, Alpine County, California. South Tahoe Public Utilities District, South Lake Tahoe, California, 1981.

**Response to Letter 17**  
**Continued**

smaller reservoir just downstream of Indian Creek Reservoir in 1989. All effluent currently is piped and stored in this second reservoir, which is kept off-limits to the public. The effluent is less highly treated than before: filtered secondary treatment, with no nutrient removal. The effluent is still utilized for agricultural irrigation in the Carson Valley.

While instructive, the above study may only have limited application to the reservoir at Snow Valley Ski Resort. The latter is situated 2,000 feet higher in elevation. It is also only 2-3 percent of the size and volume of the Indian Creek Reservoir. At full operation of 1 MGD, the proposed project could pass over 22 volumes of water through the reservoir per year, resulting in significant dilution effects and reducing the degree of eutrophication and associated water quality impacts. The Snow Valley reservoir is a very minor fishery resource in the area, its primary purpose being sediment control and water storage for snow making. If unionized ammonia did become a problem after project implementation, pH control would be much more feasible in the smaller reservoir at Snow Valley. The aesthetic impacts to this reservoir are discussed in Section 2.2.6.

The proposed project is unique in that it involves runoff of reclaimed water to a mountain stream on only a very restricted basis (i.e., during spring snowmelt). No known studies on projects of this type exist in the literature. As discussed in the Draft EIR/EIS, the water quality impacts are expected to be transient and the impacts to aquatic biology minor. An extensive stream monitoring program will be carried out to document any impacts and to allow for project adjustments, if necessary.

17-3 The dechlorination facility would reduce free chlorine to very low levels: on the order of 0.05 mg/l, or less. When combined with the dilution effects of the storage reservoir, no negative impacts upon the fish in the reservoir would be anticipated.

17-4 The existing procedures for dealing with plant upsets would remain the same, with or without the project. During plant upset conditions, the wastewater can be directed to the existing effluent percolation ponds in the Fredalba Drainage. No direct discharge to surface waters occurs.

The proposed project would actually reduce the frequency of wastewater bypass over current conditions. The 300,000 gallon equalization tank used to store secondary treated water prior to the filtration process could, under certain conditions, provide temporary storage of bypassed flows for a period of several hours. When plant operations were resumed, this stored wastewater would be pumped to the head of the treatment plant for full treatment.

17-5 The geology of the area, such as shallow soils, does not generally present any unusual pipeline construction difficulties. The reclaimed water line would be buried at least three



**Response to Letter 17**  
**Continued**

feet deep and would be below the zone of frozen soil. The pipeline route does not pass through any areas of high landslide potential and would therefore not be exposed to this hazard. A discussion of the mitigation measures to minimize and respond to a break in the reclaimed water line can be found in Response 3-1.

17-6 The residual chlorine concentration in the reclaimed water pipeline would be about 5 mg/l. This chlorine level would not pose a health threat to firefighters using the reclaimed water for fire suppression purposes. By way of comparison, the chlorine levels in municipal swimming pools are typically 1 to 3 mg/l. A sign adjacent to each hydrant will warn that the water is reclaimed water and advise against ingestion. At this point in the water line, the minimum disinfection period will have been achieved and the health hazard of accidental ingestion would be minimal.

17-7 During the period when there is no snow on the ground, which is the majority of the year at the ski resort, there would be no possibility for reclaimed water to flow directly into the North Fork of Deep Creek. Under the Preferred Alternative, rainfall runoff during this period would therefore not be contained at the ski site.

The reservoir at the ski resort would contain a mixture of reclaimed water and local runoff. The reservoir would be managed on a year-round basis to assure that overflows did not occur. As discussed in the Draft EIR/EIS, the reclaimed water line can be flexibly used in a reverse direction to direct water from the reservoir, past the treatment plant and down to the existing effluent disposal site in the Fredalba Drainage. Section 4.2.1 of the Draft EIR/EIS contains a mitigation requiring that a detailed reservoir operating plan be developed to assure that adequate storage space is maintained to contain the natural runoff reaching the reservoir.

17-8 There are no plans to control the percolating groundwater from the ski site. With the implementation of the project, a portion of this water would continue to surface in the North Fork of Deep Creek. Summer baseflow would probably be enhanced. As stated in Section 4.3.1, the concentrations of conservative parameters such as TDS and chloride might increase, somewhat, but are not expected to greatly impact the water quality of the creek. After the project started operating, an extensive monitoring program (refer to Appendix E of the Draft EIR/EIS) would be carried out to determine whether negative impacts to the creek were occurring and further mitigations would be developed, if necessary, to protect the creek.

17-9 Discussions held with the manufacturer of the tertiary treatment system proposed for the project (CPC Engineering Corporation) indicate that the treatment process, which involves the addition of small amounts of alum and possibly a polymer, followed by filtration, is aimed primarily at reducing the level of suspended solids in the secondary effluent to very low levels. Some reduction in phosphorus and organically-bound



**Response to Letter 17**  
**Continued**

nitrogen might also occur. No appreciable change in other chemical constituents would be expected. The water quality analysis carried out in Section 4.3.1 of the Draft EIR/EIS conservatively assumed that no reduction in the chemical constituents from the levels in the secondary effluent would occur.

A detailed discussion of the water quality impacts of the project on Deep Creek, with emphasis on the water quality objectives, can be found in Section 4.3.1 of the Draft EIR/EIS.

- 17-10 A mitigation in Section 4.3.2 of the Draft EIR/EIS requires that if reclaimed water is utilized for the proposed park: (1) water application be carried out no closer than 50 feet from the high water mark of Arrowbear Lake; and (2) irrigation be controlled such that no runoff of applied water leaves the irrigated site.
- 17-11 Irrigation at Snow Valley Ski resort would only occur during the summer period when the evapotranspiration needs of the grass cover on the ski slopes was the greatest. Reclaimed water used at these times would be approximately equal to plant needs. No surface runoff would occur and losses to groundwater would be minimal. The irrigation water would come from the same source as the water used for snow-making: the reservoir located at the ski resort. Unused effluent during this period would be piped to the existing disposal site in the Fredalba Creek Drainage (refer to Section 2.2.1 of the Draft EIR/EIS).
- 17-12 Section 7 of the Draft EIR/EIS states that under Variation 1 of the Preferred Alternative (no onsite retention of the runoff from melting snow) the water quality standards for the North Fork of Deep Creek would be exceeded. This condition would be transient, lasting only during the snowmelt period.

Section 2.2.3 discusses the designated beneficial uses of Deep Creek. These uses include agricultural irrigation, groundwater recharge, water contact recreation (swimming, fishing), non-contact water recreation (aesthetics), coldwater fishery and wildlife habitat. The first two uses occur in the lower reach of Deep Creek and beyond (in the Mojave River Basin), where the water quality impacts of the project would be negligible at all times of the year.

Contact and non-contact recreation, coldwater fishery and wildlife habitat are beneficial uses of the North Fork of Deep Creek potentially impacted by the project. However, as discussed in Section 4.3.1 of the Draft EIR/EIS, the elevated water quality parameters would last only for a period ranging from a few weeks to two months, during the spring snowmelt period. The cold water temperatures and relatively high flows during this period would be expected to limit the development of undesirable creek conditions such as excessive algae growth (and associated high pH and unionized ammonia levels) or

**Response to Letter 17**  
**Continued**

associated reductions in the levels of dissolved oxygen. The beneficial uses are not expected to be negatively impacted. It is possible that the flow increases resulting from the project would enhance the habitat conditions for coldwater fishery and wildlife habitat within the North Fork. An extensive water quality and biological monitoring program is proposed to track any changes which the project may induce in the North Fork and the upper reach of Deep Creek.

- 17-13 As the project proceeds into the design phase, the District will continue to work closely with the Regional Board staff in obtaining the necessary water quality permits for the project. See also Responses 6-4 and 6-5.

#### **4. MITIGATION MONITORING PROGRAM FOR THE RUNNING SPRINGS ADVANCED WASTEWATER TREATMENT AND RECLAMATION PROJECT**

Assembly Bill 3180 requires responsible agencies to adopt monitoring programs to ensure that mitigation measures contained in Environmental Impact Reports are effectively implemented. This section is designed to ensure that mitigation measures contained in the Draft EIR/EIS, plus additional mitigations added as a result of public comments, are properly monitored to ensure that effective implementation occurs.

This program (consisting of this narrative text and the following matrix) has been designed so that the mitigation measures are all listed sequentially by resource area. For each mitigation measure, the program specifies the agency which will be responsible for monitoring a particular mitigation measure. The program also provides the time or times in the development of the project that each mitigation measure will be monitored. The last column provides an opportunity for the agency listed as responsible for monitoring the implementation of a mitigation measure to indicate whether the measure has been implemented satisfactorily or to report noncompliance and to provide the date of the assessment, along with a signature to indicate that implementation has or has not been accomplished. Where two or more agencies are listed as responsible for monitoring, all findings of satisfactory implementation of mitigation measures are required before approvals contingent on implementation of mitigation measures are granted.

Where repeated monitoring is required and/or the space provided on the chart is not adequate for documentation of compliance or non-compliance, a sheet or sheets shall be attached to the chart immediately following the page with inadequate space. This sheet can then be used to document the date, whether compliance has occurred and for the preparer's signature.

Unless otherwise indicated in the attached Monitoring Program, the Running Springs Water District (District) will be responsible for the day to day environmental monitoring activities and for the preparation of periodic mitigation monitoring reports during and immediately following project construction. The project environmental staff person for the Forest Service will be consulted concerning the implementation of mitigation measures involving National Forest lands. The Forest Service will be kept appraised of the progress of the mitigations on a monthly basis or more frequently, if necessary. The District may engage the Forest Service directly to carry out certain mitigations, such as long-term benthic and fish monitoring in Deep Creek, downstream of the ski resort. In such cases, specific collection agreements will be worked out with the Forest Service.

If there is any question as to the correct interpretation of a mitigation measure, the EIR/EIS for this project should be consulted to see whether the text contains information on how to correctly interpret that mitigation measure. Should the EIR/EIS not provide the required clarification, the District and the Forest Service shall jointly reach an agreement on how the mitigation measure is to be interpreted.

Should the person or persons responsible for monitoring the implementation of a mitigation measure find that satisfactory performance of the mitigation measure has not occurred, this is to be



documented as a finding and signed by the responsible individual(s) in the column titled "Finding, Checked By, and Date". A copy of the completed page of the mitigation monitoring program which contains the mitigation measure which has not been satisfactorily implemented must be transmitted to the District and Forest Service within five (5) working days for action. A copy of the page of the monitoring program which contains the mitigation measure in question, completed and signed by the responsible person(s) and indicating effective implementation, shall constitute written indication.

# MITIGATION MONITORING PROGRAM: MATRIX OF ACTIVITIES

Mitigation Measures	Responsible for Monitoring	Timing	Finding Checked By	Date
<u>Soils</u>				
1. Project construction areas shall be graded no sooner than 2 weeks prior to the start of construction.	District	Construction		
2. Pipeline construction shall be limited to the months of May through October, inclusive.	District	Construction		
3. Prior to initiating construction of the pipeline, the contractor shall prepare an erosion control plan acceptable to the Forest Service. This plan shall include a Storm Water Pollution Prevention Plan. The contractor shall be responsible for obtaining a general stormwater permit from the Regional Board. The contractor shall also obtain dewatering permits from the Board, if needed. Daily watering of the treatment plant construction site shall be carried out to control dust generation.	District	Construction		
4. All disturbed areas shall be stabilized and open areas are to be seeded with a grass seed mixture acceptable to the Forest Service. A grass seed mixture which was recommended for use following construction at the Bear Mountain Ski Resort in nearby Big Bear (U.S. Forest Service 1990) is the following: The seed would be spread at the rate of 50 pounds per acre consisting of Durar hard fescue (8 lbs/acre), Oahe intermediate wheat grass (20 lbs/acre), orchard grass (6 lbs/acre), small bennett (4 lbs/acre), smooth brome (4 lbs/acre), alsike clover (4 lbs/acre), yellow sweet-clover (4 lbs/acre), and wildflower mix (0.5 lb/acre). A nitrogen-based fertilizer should be used when planting this mix to enhance seed and sprout growth.	District	Construction		

MATRIX, Continued

Mitigation Measures	Responsible for Monitoring	Timing	Finding Checked By	Date
5. After seeding, the five areas shown in Figure M1 shall be monitored the following summer. Ungrassed areas shall be reseeded prior to November 1 of the same year.	District	Project Operation		
6. Special consideration shall be paid to Area 1 (the initial length of pipeline above the treatment plant) with regard to installing additional erosion control measures. The planting of native trees and shrubs is recommended along this stretch of pipeline as a further erosion control measure.	District	Construction		
<u>Wastewater Treatment and Reuse</u>				
7. The District shall work with Regional Board staff to develop a Report of Waste Discharge for the application of reclaimed water at the Snow Valley Ski Resort.	District and the Lahonton Regional Water Quality Control Board	Design		
8. To minimize the potential for water losses in the event of a pipeline breakage, automatic valves shall be installed at each pump station.	District	Design		
9. Total coliforms in the reclaimed water shall be monitored on a daily basis to assure that the required level of disinfection (median of 2.2; maximum of 23 counts per 100 ml) is being consistently achieved.	District	Project Operation		
10. Signs shall be placed at the entry points to all ski lifts and in other suitable locations around the ski resort advising visitors that reclaimed water is being used. The signs are to warn visitors against eating the snow or drinking from the snow spray nozzles.	District	Project Operation		



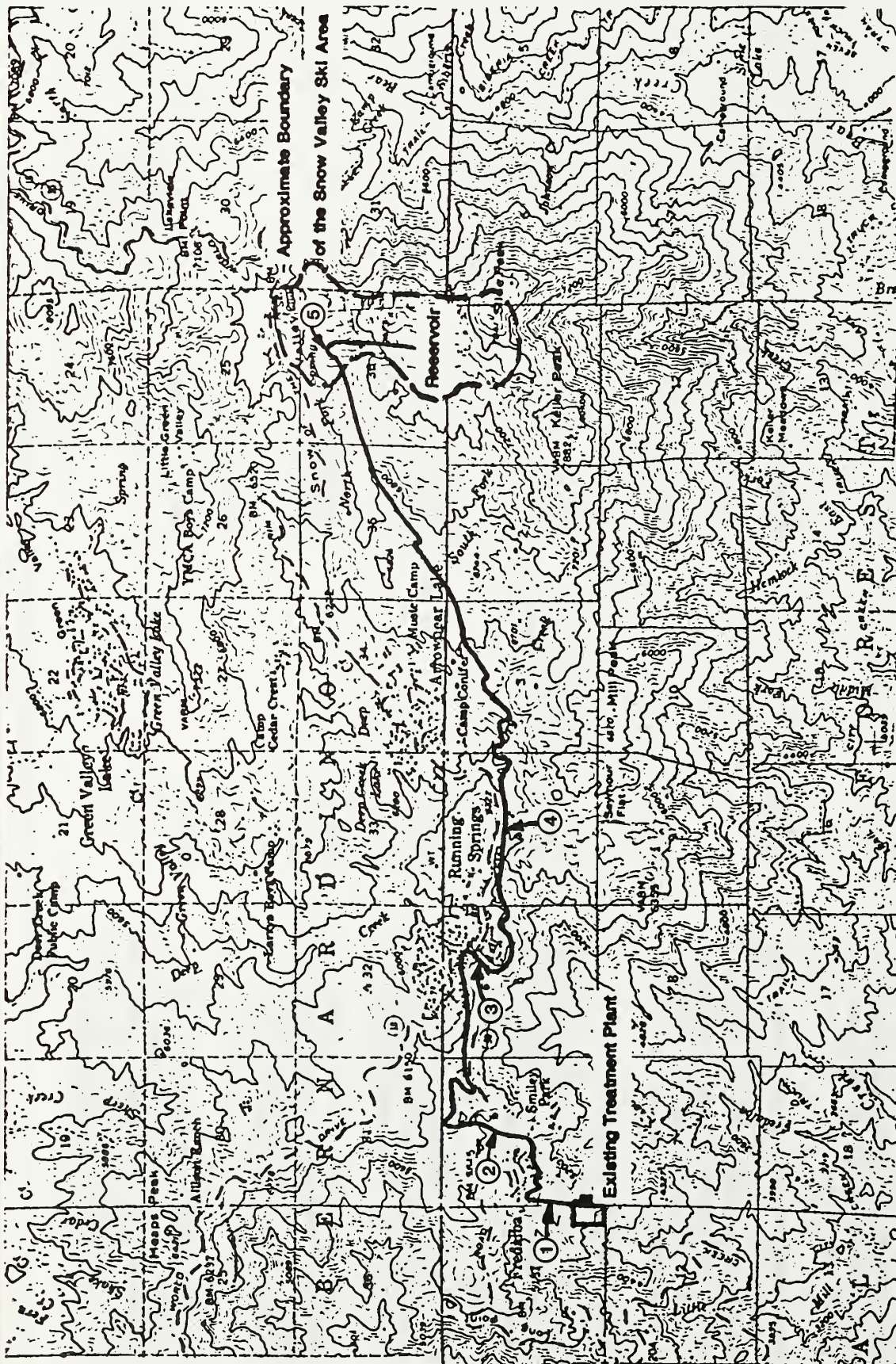


FIGURE M1

PIPELINE LOCATIONS WARRANTING SPECIAL EROSION TREATMENT  
(SEE TEXT)

1" = 1 mile

— 10 inch Pipeline

MATRIX, Continued

Mitigation Measures	Responsible for Monitoring	Timing	Finding Checked By	Date
<p>If Variation 1 of the Preferred Alternative is adopted, signs shall be placed at selected prints along the North Fork of Deep Creek informing the public that the Creek may contain reclaimed water during periods of snowmelt.</p>				
<p>11. Prior to initial use of the reclaimed water system, the District and Snow Valley Ski Resort are to cooperatively develop an operations manual specifying specific conditions for pumpage of water to the reservoir, containment of snowmelt runoff, and the piping of runoff back through Running Springs to the Fredalba land treatment system. Particular attention shall be paid toward strategies of managing the surface reservoir in order to minimize the piping of effluent away from the ski area. The possible need for increasing reservoir capacity will be reviewed. The manual shall identify management and monitoring responsibilities of the two parties.</p>	District	Design and Construction		
<p>12. The Operator of the Snow Valley Ski Resort shall install a public display in its ski lodge which emphasizes the role which reclaimed water plays in meeting the water requirements of the ski resort. The display shall also point out the secondary benefits of the additional water supply (e.g., flow augmentation, habitat enhancement).</p>	Forest Service	Project Operation		
<p><u>Water Resources</u></p>				
<p>13. The construction of pipeline drainage crossings shall be confined to periods when there is no flow, typically the period from May through October.</p>	District	Construction		



MATRIX, Continued

Mitigation Measures	Responsible for Monitoring	Timing	Finding Checked By	Date
14. Where the reclaimed water pipeline parallels a drainage, such as Little Mill Creek, an undisturbed width of 50 feet between the trench and the streambed shall be maintained, where practical. In these situations, construction shall be limited to periods with generally low precipitation; May through October.	District	Construction		
15. Drainage crossings will be constructed within the existing road (as opposed to underneath the streambed), where possible, in order to minimize stream disruption.	District	Construction		
16. Where streambed disturbance is unavoidable, the streambanks shall be returned to their original contours and revegetated as soon as possible after construction is completed at that location.	District	Construction		
17. An aerator of sufficient capacity to ensure aerobic water conditions shall be installed and operated in the reservoir at Snow Valley Ski Resort prior to the inflow of reclaimed water.	District	Project Operation		
18. After construction of the reclaimed waterline to Snow Valley, the ski resort shall cease direct pumpage of water from the North Fork of Deep Creek.	Forest Service	Project Operation		
19. An aquatic biological and water quality monitoring program shall be carried out within the North Fork of Deep Creek for 1 year prior and 3 years after the initiation of reclaimed water application at Snow Valley Ski Resort. This monitoring program shall substantially follow the approach found in Appendix E of the Draft EIR/EIS.	District	Project Operation		



MATRIX, Continued

Mitigation Measures	Responsible for Monitoring	Timing	Finding Checked By	Date
<b><u>Biology</u></b>				
20. Erosion-prone areas on the slopes of Snow Valley slopes shall be seeded with a seed mix acceptable to the Forest Service. One mix, which was used at the ski resort in Big Bear, would be spread at the rate of 50 pounds per acre consisting of Durar hard fescue (8 lbs/acre), Oahe intermediate wheat grass (20 lbs/acre), orchard grass (6 lbs/acre), small burnet (4 lbs/acre), smooth brome (4 lbs/acre), alsike clover (4 lbs/acre), yellow sweet-clover (4 lbs/acre), and wildflower mix (0.5 lb/acre). A nitrogen-based fertilizer should be used when planting this mix to enhance seed and sprout growth. In addition to providing deer foraging habitat on the ski trails, this seed mix would also provide a means of erosion control. The revegetated steeper areas (refer to Figure M1) shall be monitored for 3 years following construction. New plantings shall be made as necessary to assure that the vegetation becomes re-established.	Forest Service	Construction and Project Operation		
21. The pipeline shall be located in the road or its shoulder wherever possible to minimize disturbance of vegetation and wildlife.	District	Design		
22. Avoid all riparian woodland and riparian scrub areas wherever possible; however, if certain riparian areas cannot be avoided, construction activities shall be scheduled during months with low precipitation in order to minimize erosion and siltation. Disturbed streambanks and other riparian areas shall be revegetated using appropriate riparian species.	District	Design and Construction		

MATRIX, Continued

Mitigation Measures	Responsible for Monitoring	Timing	Finding Checked By	Date
23. Prior to project construction, the U.S. Army Corps of Engineers shall be contacted regarding the need for a Section 404 Permit for the project. In addition, Streambed Alteration Agreements shall be obtained from the California Department of Fish and Game.	District	Design and Construction		
24. Avoid removing any trees with diameters in excess of 12 inches. All trees removed shall be replaced at a 3:1 ratio with similar species.	District	Construction		
25. For any construction planned during the raptor nesting season (March 15-July 15), a survey for nesting raptors shall be conducted covering one-eighth mile to either side of the pipeline route. If any active nests are located, construction shall be restricted within one-eighth mile of the nest until the young have fledged.	District	Construction		
26. Prior to pipeline construction, a survey shall be carried out to determine if any sensitive tree-cavity species have active nests within 200 feet of the pipeline route. If any such nests are encountered, construction shall be restricted within 200 feet of the nest until the young have fledged.	District	Construction		
27. The pipeline shall be routed to avoid the disturbance of known locations of sensitive plant species. Such areas shall be flagged prior to construction activities in the local area.	District	Design and Construction		
28. A biological monitor shall be present when construction activities are scheduled for those areas where sensitive plant species are known to occur.	District	Construction		

MATRIX, Continued

Mitigation Measures	Responsible for Monitoring	Timing	Finding Checked By	Date
29. The pipeline shall be routed through the road and parking lot at Deer Lick Station in order to avoid nearby swales which support stands of San Bernardino owl's clover. If necessary, the owl's clover populations should be flagged and monitored while construction is in progress.	District	Construction		
30. The pipeline shall be routed along the center of the jeep trail leading to Snow Valley in order to avoid disturbance to vegetation at the edge of this trail including the San Bernardino jewelflower. Additional steps such as flagging and monitoring should be taken to protect the small population of owl's clover located at the edge of this trail.	District	Construction		
31. The swale at the west end of the parking lot at Snow Valley which provides habitat for the San Bernardino owl's clover shall be flagged and protected from water and chemical runoff, silt, dirt, construction materials, and construction vehicles associated with the construction of runoff collection system proposed for Snow Valley. Biological monitors shall be present during construction of the runoff control system to ensure impacts to sensitive species are avoided.	District	Construction		
32. Revegetate the understory in the riparian woodland area north of Fredalba Road, as well as riparian scrub areas crossed by the pipeline with locally adapted native species to minimize the introduction of weed species.	District	Construction		
33. If the outlet for the pipeline is positioned above the reservoir, no trees or other vegetation should be removed along the channel leading into the reservoir. Additionally, steps shall be taken to	District	Construction		



MATRIX, Continued

Mitigation Measures	Responsible for Monitoring	Timing	Finding Checked By	Date
enhance the growth of riparian vegetation (e.g., planting black cottonwood trees, etc.) along the channel.				
34. Avoid disturbance to the small stand of giant sequoias which have been planted in the vicinity of the pipeline corridor near the eastern terminus.	District	Design and Construction		
35. An aquatic monitoring program will be implemented by Snow Valley Ski Resort. Flow water quality, benthic invertebrate and fish populations will be monitored for a period of 1 year prior to and 3 years following the initiation of reclaimed water application at Snow Valley Ski Resort. Annual reports will be compiled and sent to the Forest Service, California Department of Fish and Game, Lahontan RWQCB, and the Running Springs Water District. The monitoring shall substantially follow the approach found in Appendix E of the Draft EIR/EIS.	District	Project Operation		
If results from the intensive stream monitoring program demonstrate harm to aquatic life resulting from project water quality impacts, corrective measures shall be implemented. These could include containment of some or all of the spring runoff from the ski slopes sprayed within reclaimed water.				
36. The District and the Forest Service shall cooperate in identifying at least two demonstration sites for riparian habitat enhancement. After completion of the reclaimed water pipeline, reclaimed water shall be released at the site at a rate sufficient to establish conditions favorable for riparian plant growth. Reclaimed water releases shall be limited to periods	District and Forest Service	Design and Project Operation		

MATRIX, Continued

Mitigation Measures	Responsible for Monitoring	Timing	Finding Checked By	Date
<p>of no flowing water in the selected drainage and shall not occur when appreciable snow lies on the ground. The reclaimed water will be released at a rate sufficient to prevent escape of surface flow downstream of the defined riparian enhancement area.</p> <p>After experience is gained in successfully established riparian habitat, additional riparian enhancement locations may be established.</p>				
<p>37. Any sensitive animal found trapped in on open section of the pipeline trench is to be immediately removed to a location at least 100 feet from construction activity.</p>	District	Construction		
<b>Cultural Resources</b>				
<p>38. Prior to construction of the proposed water reclamation facility at the southwestern portions of the pipeline alignment, the surface of the 1 acre parcel will be cleared of the dense vegetation and, during the defoliating, a qualified archaeologist shall monitor the defoliating and resurvey the area for cultural remains. If cultural remains are identified, the archaeologist will make recommendations for the treatment of the resources.</p>	District	Construction		
<p>39. Prior to the construction of the pipeline alignment between Fredalba Road and the Old City Creek/ Highway 330 intersection, the project right-of-way shall be cleared of surface vegetation and a qualified archaeologist will survey the area for cultural remains. If remains are identified, the archaeologist will make recommendations for the treatment of the resources.</p>	District	Construction		

MATRIX, Continued

Mitigation Measures	Responsible for Monitoring	Timing	Finding Checked By	Date
40. A qualified historic archaeologist monitor all pipeline related excavations between the southwestern extent at the Claibourne's Cabin (Holly Avenue and Panorama) and Fredalba Road. This 0.7 mile reach of the project right-of-way may yield significant data. If any cultural remains are uncovered, the archaeological monitor will have the authority to halt site construction to allow recovery of the remains.	District	Construction		
41. If any cultural resources are unearthed during construction work carried out on National Forest land, the Forest Service Archaeologist will be immediately notified. Work in that location will cease until the artifacts have been evaluated and recovered (if appropriate).	District and Forest Service	Construction		
<u>Land Use</u>				
42. Construction activities shall be limited to daylight hours between 7:00 a.m. and 5:00 p.m. in order to minimize disruption and noise on adjacent land uses in the vicinity of the treatment plant and effluent pipeline route.	District	Construction		
<u>Traffic</u>				
43. Utilize flagmen to control the flow of opposing traffic through portions of the roads that are temporarily reduced to one lane. Utilize warning devices and post speed limit signs to safely direct traffic flow wherever construction related activities impede traffic.	District	Construction		



MATRIX, Continued

Mitigation Measures	Responsible for Monitoring	Timing	Finding Checked By	Date
44. Limit the blockage of access to private property to the shortest possible time period. Residents will be notified of any road closures which would affect them to provide ample time to make the appropriate arrangements.	District	Construction		
45. At the end of each working day, any open trench within or immediately adjacent to a road will be filled in or covered over with a steel plate to prevent the possibility of accidents.	District	Construction		
46. Permits for the two crossings of Highway 330 will be obtained from Caltrans. All permit requirements will be strictly followed to assure minimal impact upon the highway.	District	Construction		

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